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PACIFIC PULP & PAPER INDUSTRY

Volume 5
Number 10

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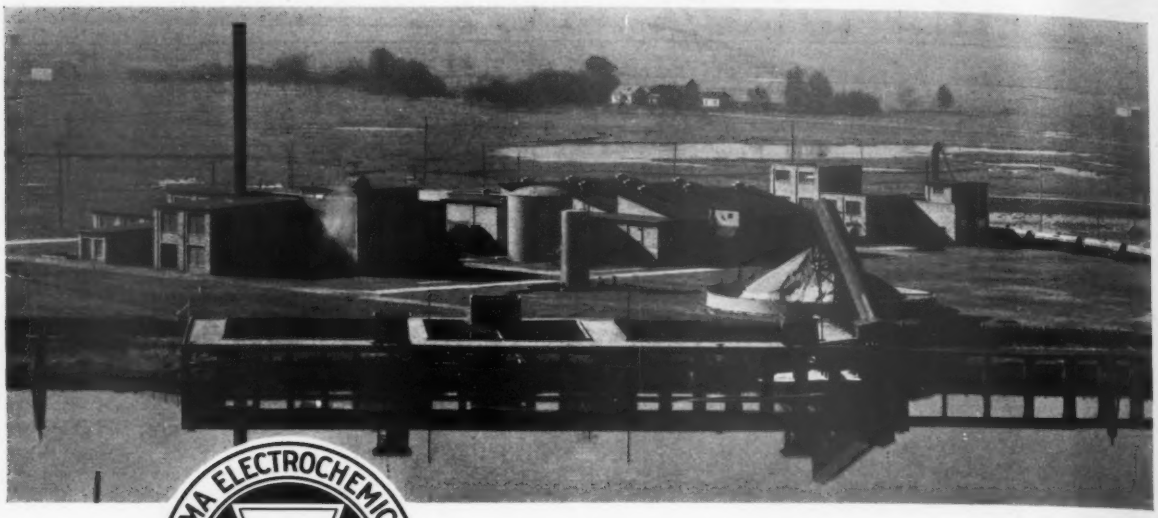
The Vernon Division of Fibreboard Products Inc.

SEPTEMBER + 1931

LIQUID CHLORINE



TACOMA ELECTROCHEMICAL CO.
KEYSTONE BRAND
TACOMA, WASH.
SUBSIDIARY PENNSYLVANIA SALT MFG. COMPANY

ACIDS
ALUMS
ALUMINAS
CAUSTIC SODA
LIQUID CHLORINE
BLEACHING POWDER
GREENLAND KRYOLITH
SODIUM HYPOCHLORITE
AMMONIUM PERSULPHATE

THE distributing facilities of the Pennsylvania Salt Manufacturing Company besides being nation wide are highly specialized. Tank car equipment and containers are maintained in perfect condition to assure prompt service and safety to customers.

Liquid Chlorine and Caustic Soda are available the country over on short notice due to the strategic location of Penn Salt plants.

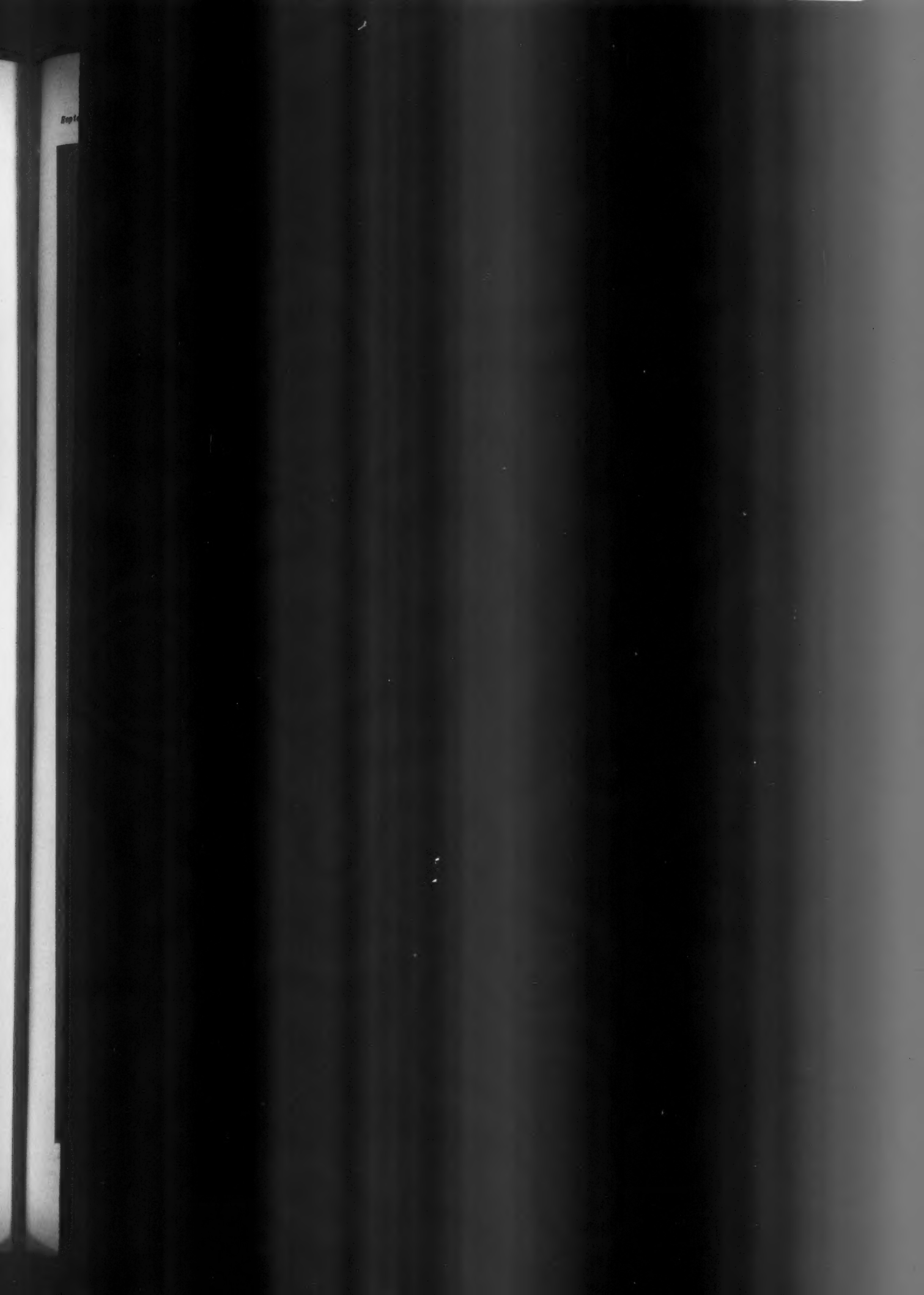
The carefully developed qualities of service which the Pennsylvania Salt Manufacturing Company has fostered have been added to the high quality of Tacoma Electrochemical Company Liquid Chlorine and Caustic Soda.

TACOMA ELECTROCHEMICAL COMPANY

TACOMA, WASHINGTON

WESTERN DIVISION OF PENNSYLVANIA SALT MANUFACTURING CO.

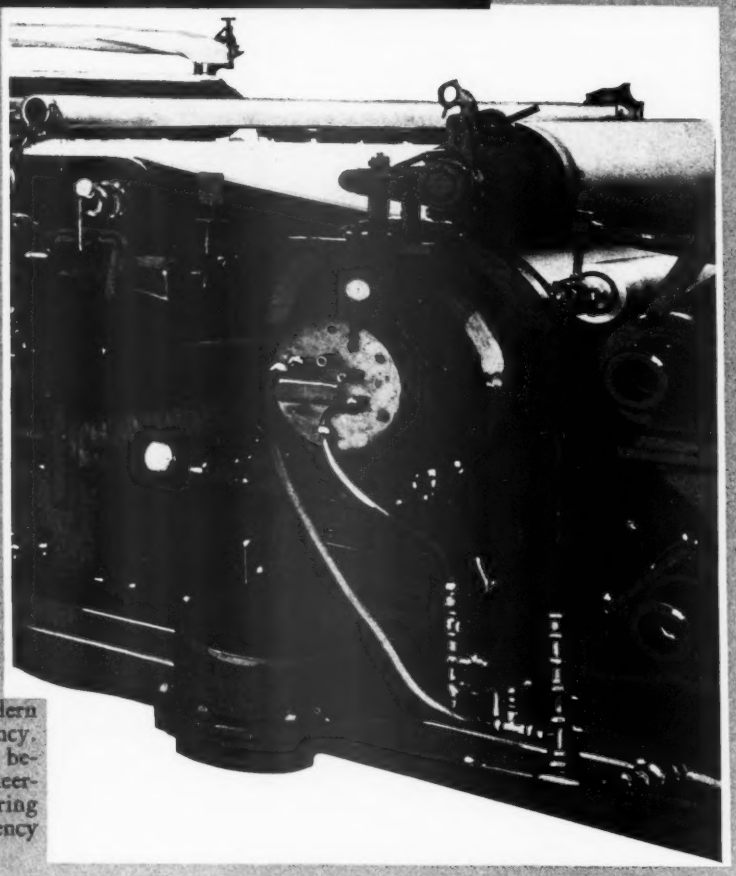
Pacific Pulp & Paper Industry is published once a month—except in March, when publication is semi-monthly—at 71 Columbia St., Seattle, Wash. Subscription: U. S. and Canada, $4.00; other countries, $5.00. Entered as second class matter May 20, 1927, at the Postoffice at Seattle, under the Act of March 3, 1879.



"BELOIT SUCTION COUCH ROLLS *are* STANDARD"

Say

LEADING MILLS AND BUILDERS



MANY of the most progressive paper mills, here and abroad, have adopted Beloit Suction Rolls as standard equipment. Most of the leading machine builders are using Beloit Suction Couch and Suction Press Rolls as standard equipment.

Such mills as the International Paper Co., West Virginia Pulp & Paper Company, Consolidated Water Power & Paper Co., Mead Corp., Crown-Willamette, Northern Paper Mills, Rhinelander Paper Co., and many others are enthusiastic in their praises of this modern improvement in paper mill efficiency. Beloit Suction Rolls are standard because they incorporate sound engineering and practical features that bring about increased production, efficiency and lowered operating costs.

New Book Tells Why—Send for It

The New Beloit Suction Roll Book has virtually been written by actual users of these modern rolls. It will pay you to have a copy, as many examples are given that may prove parallel to your own needs. A copy will be sent to you without cost or obligation. Simply write for it.

The *Beloit* Way is the *Modern* Way

BELOIT IRON WORKS, BELOIT, WIS., U. S. A.

The BELOIT

BELOIT IRON WORKS PAPER MACH BELOIT WIS.

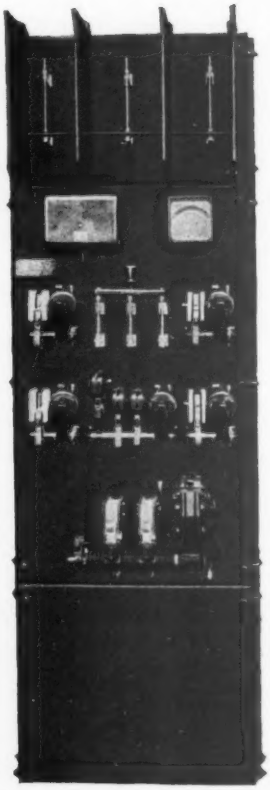
Now Ready!

DUAL-FREQUENCY SUPERCALENDER DRIVES
for all commercial voltages and frequencies

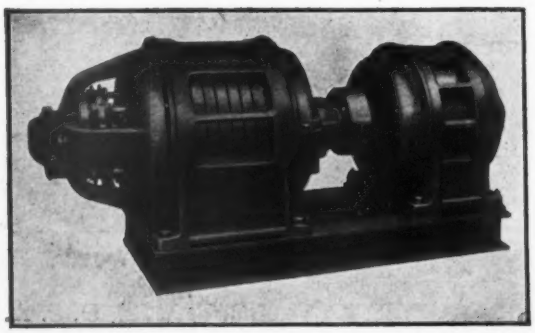
GENERAL ELECTRIC has produced a new type of low-frequency power generator, which makes possible the application of dual-frequency supercalender drives on all commercial voltages and frequencies.

The usual threading motor with its attendant gearing and overrunning clutch has been eliminated. Instead, one large a-c. motor direct-connected to the supercalender is used, low-speed operation for threading being obtained by operating this motor directly from the low-frequency generator. Normal operation is obtained by throwing the drive over to the regular mill power supply. It is also possible with this system to take advantage of voltages above 550 volts — the upper limit thought economically practical until now.

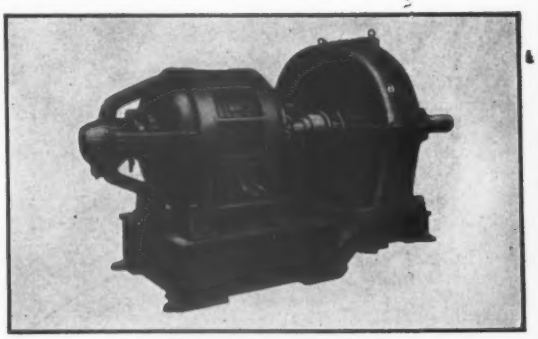
Inherent in this development are many distinct advantages of low first cost for group or battery operation, unusual flexibility, great mechanical simplicity, and reliability. All have been realized in an installation that has been in successful operation for six months in a large eastern paper mill.



G-E control for 2200-volt dual-frequency supercalender drive



G-E 40-kv-a. low-frequency generator set for supercalender drive supply



G-E 300-hp. supercalender drive

JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

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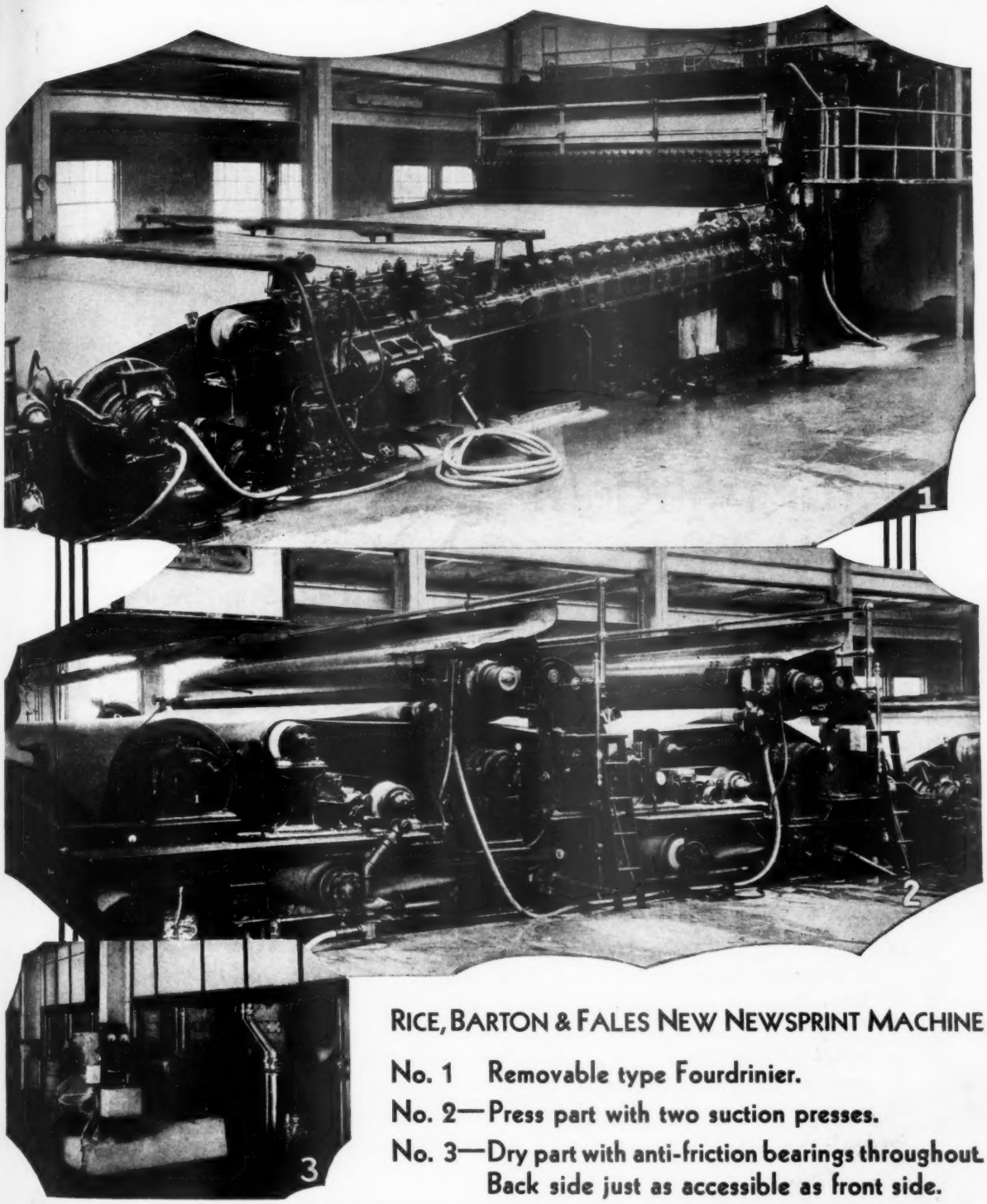
GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES



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No. 1 Removable type Fourdrinier.

No. 2—Press part with two suction presses.

No. 3—Dry part with anti-friction bearings throughout. Back side just as accessible as front side.

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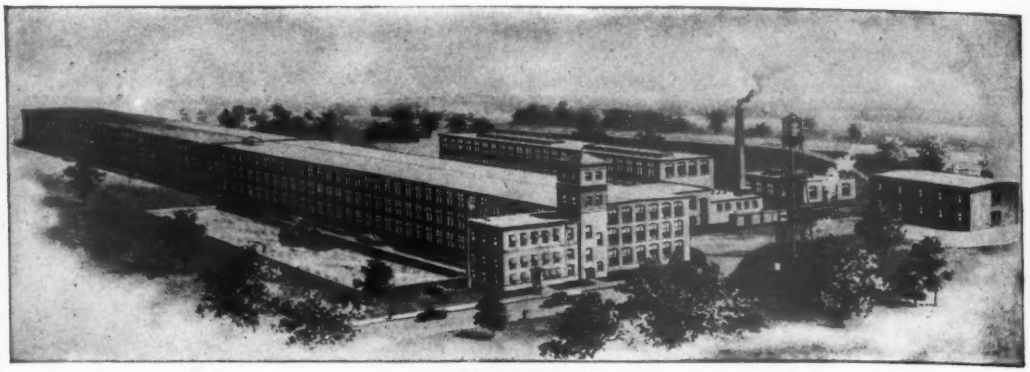
Paper Making Machinery Since 1837



THE HOME OF ALBANY FELTS

Modern Felts for Modern Machines

With the conversion of pulp into paper growing more complicated every day, it is difficult to say what is the most important feature in the process. But it is generally admitted that the secret of good paper lies largely with the felts.

Every paper-mill man knows that, no matter what care is given the preliminary processes, his sheet will not have the proper qualities unless the right design of felt is adopted.

Our long experience in studying and interpreting the felt needs of individual mills has resulted in the creation of improved methods which are generally well in advance of common practice. In recognition of this, progressive paper manufacturers all over the country are consulting us constantly, giving us a greater range of experience and a broader vision, so that today Albany is one of the world's greatest felt makers.

Look to Albany for improved felt efficiency. And if you have a problem that is bothering you, we suggest that arrangements be made through us or our representatives to have one of our service engineers look the situation over.

Albany Felt Company

▶ ▶ ▶ ▶ ▶ ALBANY, N. Y.

When writing to ALBANY FELT CO. *please mention* PACIFIC PULP AND PAPER INDUSTRY

WILLIAMS STANDARD PAPER MOISTURE TESTER

An Accurate Moisture Test of Your Paper in Ten Minutes

One Paper Company Has Bought 21 for Their Various Mills

Moisture tests can be made in your Machine Room by your Machine Tenders.

No calculations required. Accurate to .1 of 1%.

Tests all kinds of paper from tissue to board.

Hot samples weighed without removal from oven. No chance for moisture absorption during weighing.

Double-walled electric drying oven, with thermostat control.

Accurate scales with non-rusting agate bearings and beam graduated to read percent moisture directly.

Over-dried Paper Costs You More Dollars Per Ton and Dissatisfied Customers

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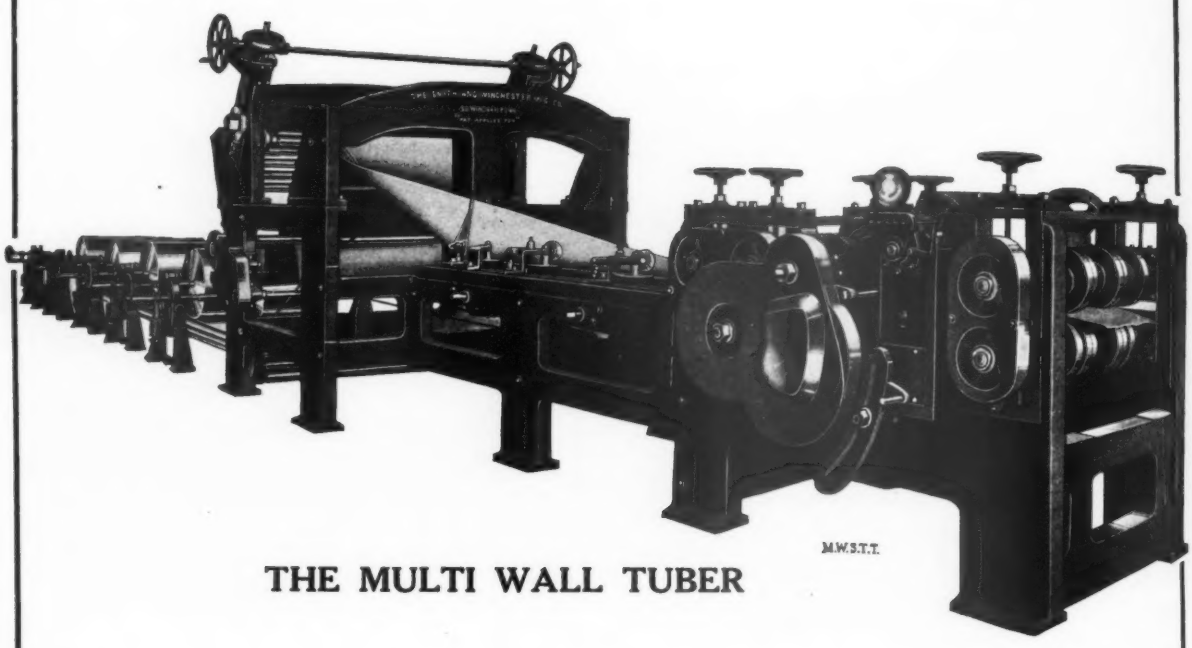
The Last Word - - -

in highest speed machine for making five wall bag tubes for sewed valve bottoms, used in the cement and allied trades. Completely equipped with anti-friction bearings.



M.W.S.T.T.

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—Established 1828—

The Smith & Winchester Mfg. Co.

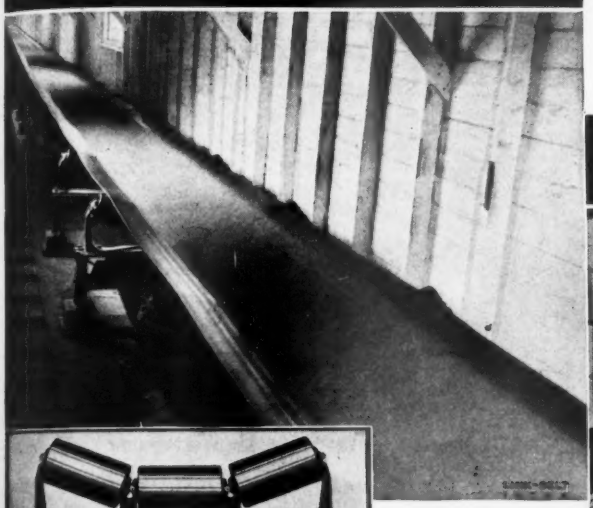
SOUTH WINDHAM, CONN.

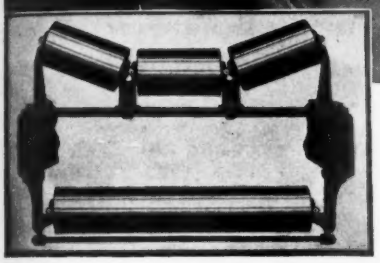
DEPT. MFP.

PAPER MILL MACHINERY

Handling Hogged Fuel and Chips Economically with LINK-BELT Belt Conveyors

HOGGED FUEL



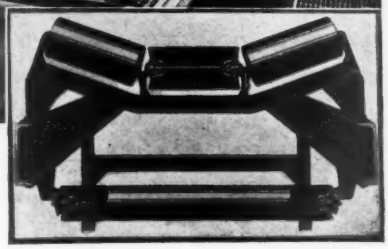


Above: Shows Type 52 Link-Belt Ball-Bearing Belt Conveyor for handling hogged fuel.

Right: Link-Belt Type 40 Timken Anti-Friction Belt Conveyor and Automatic Tripper handling chips.

Above: Type 52 Link-Belt Ball-Bearing Belt Conveyor Idler for handling materials weighing 50 pounds per cubic foot or less.

CHIPS



Right: Type 40 Timken Anti-Friction Idler, manufactured to the closest tolerances ever attempted. Features: Timken Bearings, grease seals, and machined rolls.

THE number of mills using Link-Belt Belt Conveyors for economically handling both hogged fuel and chips, shows that Link-Belt equipment has amply proved its efficiency in this important service.

Link-Belt builds an approved type of elevator, conveyor and positive drive for every class of service. With the knowledge gained through years of contact with the industry, Link-Belt engineers can therefore render valuable assistance in the selection of the best equipment for any requirement.

Send for a copy of the Belt Conveyor Data Book No. 1615 and General Catalog No. 500.

Pacific Division, Saw Mill

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Leading Manufacturers of Equipment for Handling Materials Mechanically and for the Positive Transmission of Power

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Everett, Wash. - - - - - - - Agnew Hardware Co.
Hoquiam, Wash. - - - Lamb-Grays Harbor Company
Klamath Falls, Ore. - - - - - - - - - - - Lorens Co.
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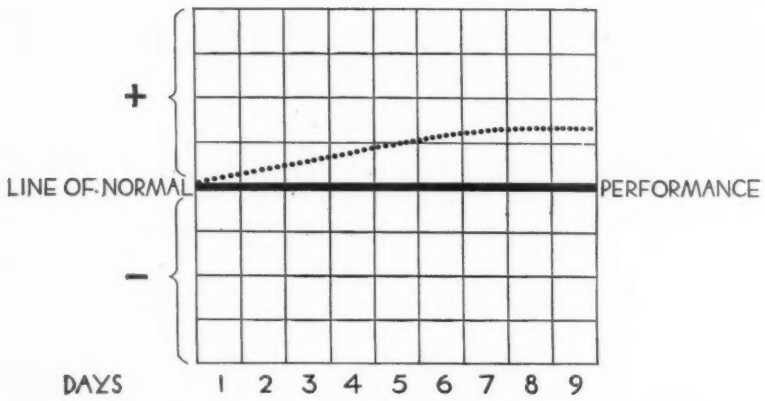
Vancouver, B. C. - - - - - - - Fleck Bros., Ltd.
Vancouver, B. C. - A. R. Williams Machinery Co., Ltd.

LINK-BELT

THE Higher the Quality of Your Product, the More Reason Your Machines Should Be Clothed Throughout With Kenwood Felts



With perfection as the goal, makers of fine linen bonds and ledgers, wedding texts, parchments and other fine papers, find in Kenwood Felts those qualities which assist in approaching the ultimate.

Kenwood Felts possess the smooth, uniform surface and the couching qualities that are vital to the maintenance of the highest standards. Clothing the machines throughout with Kenwood Felts produces that teamwork of one felt with another that is just the added factor to make the whole picture of efficiency.

Kenwood pioneered the one-sided board felt. The same research service developed and perfected the patented Kenwood tanning processes which protect the felt from the deteriorating effects of acids.

A third major development is that in which a new method of yarn construction, while adding nothing to the size or weight of the yarn, provides definite advantages, both in strength and increased openness.

KENWOOD WOOL PRODUCTS

F. C. HUYCK & SONS

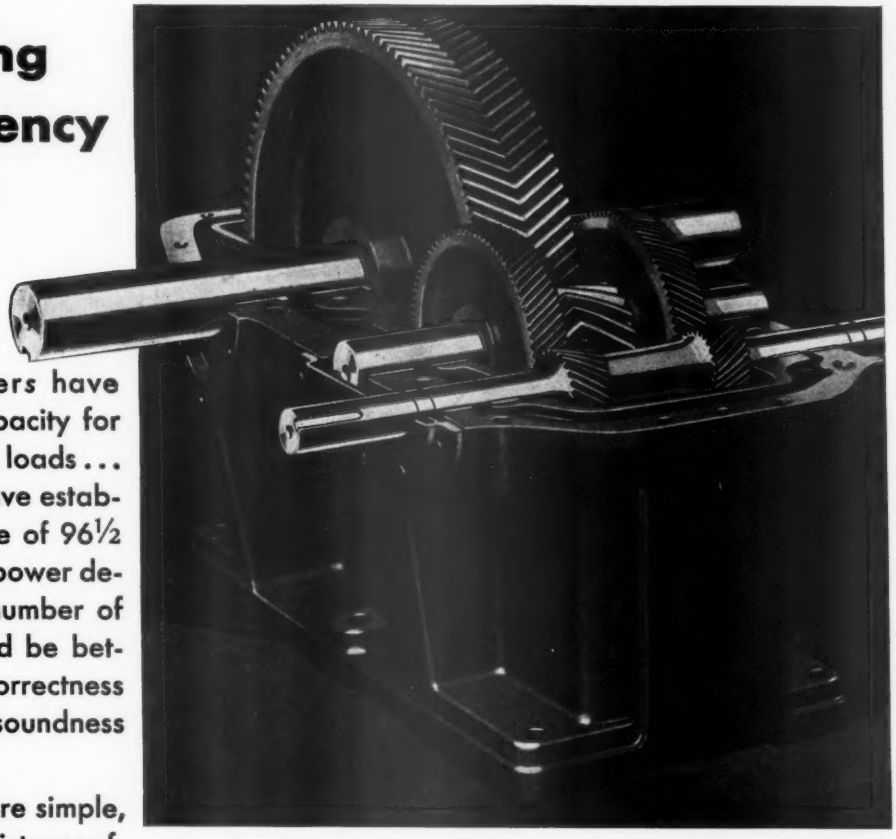
KENWOOD MILLS, ALBANY, N. Y.

KENWOOD MILLS LTD., ARNPRIOR, ONTARIO, CANADA

KENWOOD FELTS

100% Overload Capacity

for starting and emergency loads



FALK Speed Reducers have 100% overload capacity for starting and emergency loads . . . and in actual service have established the high average of 96½ to 98½% efficiency in power delivery, depending on number of reductions. What could be better testimony to the correctness of their design and soundness of their construction?

Falk Speed Reducers are simple, compact, oil-tight, dirt-proof, quiet, free from heat and vibration. They permit a higher reduction per gear . . . transmit load and transform speed with less friction loss . . . than any other type or kind.

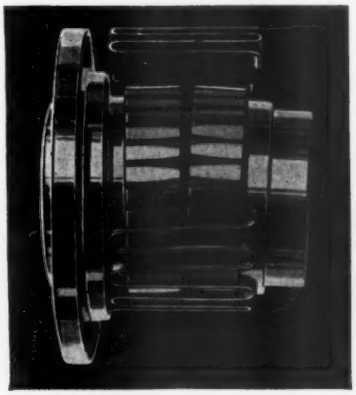
Falk Speed Reducers Are Highly Efficient!

There are Falk Speed Reducers that will economically and satisfactorily meet your particular requirements. They are made in standard sizes and ratios and carried in stock for immediate shipment. Write for Bulletin No. 230.

THE FALK CORPORATION, Milwaukee, Wisconsin

SMOOTH OPERATION—LONGER SERVICE
With Falk Flexible Couplings

Falk Flexible Couplings provide smoother operation . . . longer machine life . . . increased production. This is because of their spring and groove construction which permits a degree of lateral and torsional resiliency obtainable in no other coupling.



Carried in Stock on the Coast in a wide range of sizes and ratios by

THE PRESCOTT CO.—Seattle

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SPEED REDUCERS

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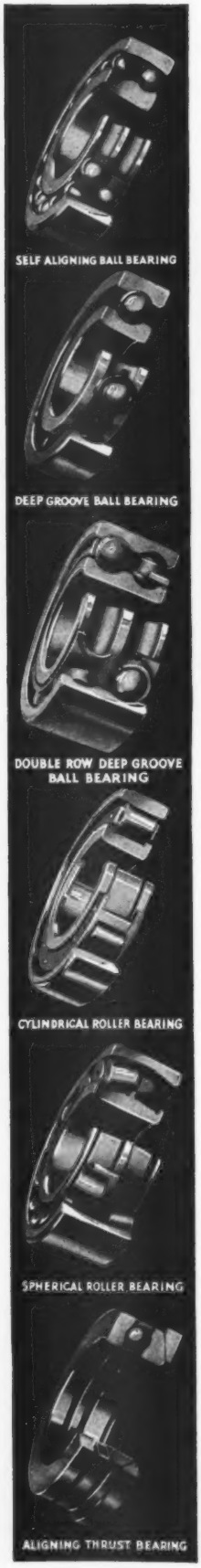
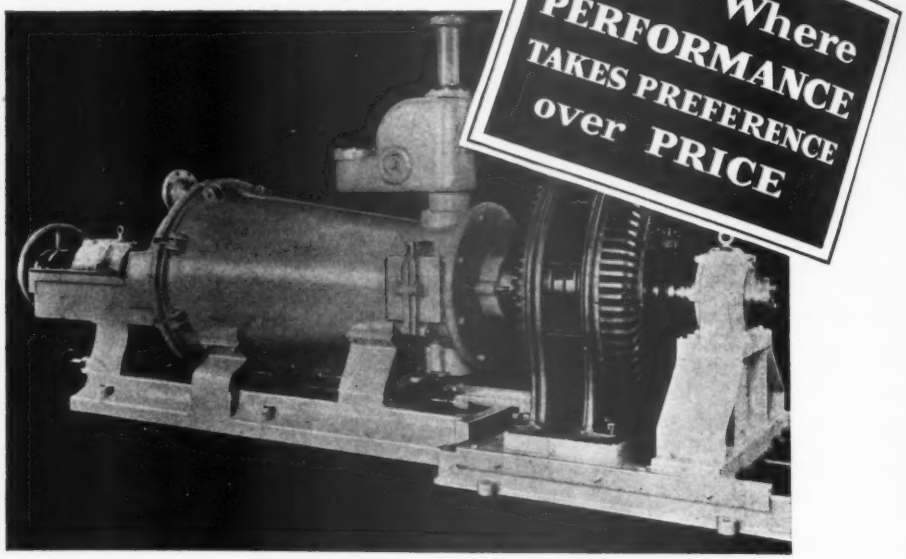


THE APPLETON MACHINE COMPANY

Another prominent user of **SKF** *Bearings in the Paper Industry*



FOR HIGHEST EFFICIENCY APPLETON USES SKF

PERFORMANCE...in this one word are summed up the many reasons why Appleton prefers SKF Bearings for Jordan Engines. The four sizes of Jordans they manufacture ...50 to 600 H.P....include SKF Ball and Spherical Roller Bearings...to insure accuracy and economy of operation at all times with little maintenance.

SKF's go a long way toward meeting the exacting demands of modern paper mills for unfailing performance. Rugged, long-life units, these bearings can be depended upon for smooth operation...always. There is no wear, no adjustments...two vital factors affecting efficient production and quality of stock refined.

SKF Industries of California, Inc.

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SKF

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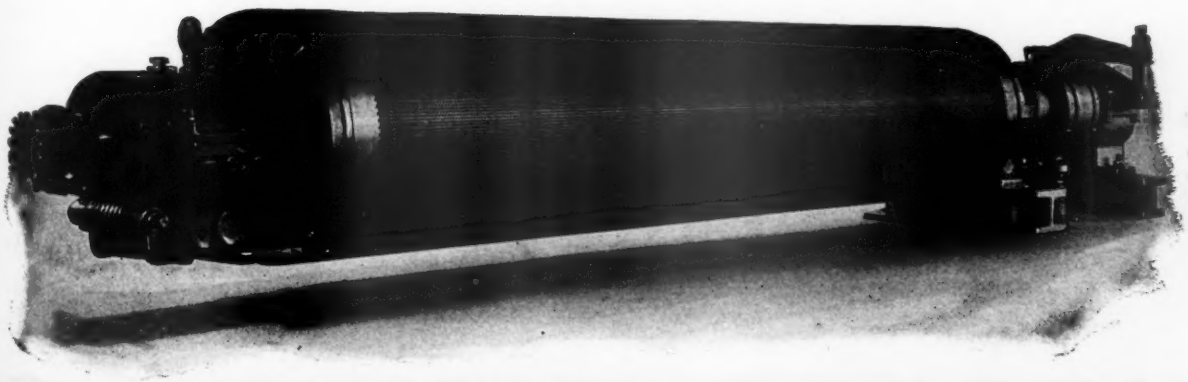
Downingtown Suction Rolls are built in both Cantilever and Standard Types, with suction pump connection on either front or rear. All rolls are fully adjustable while running. This includes the packing strip adjustment, deckle adjustment and adjustment of angular position of the suction box. Furthermore, when the roll is idle, the packing strips can be removed through ports in the end heads, without removing the suction box, or dismantling the roll in any way. A complete description of the Downingtown Suction Roll and its advantages is contained in our Catalog 103. Write us for a copy and a list of concerns using this improved type of suction roll.

DOWNINGTOWN MFG. CO.
DOWNINGTOWN, PA.



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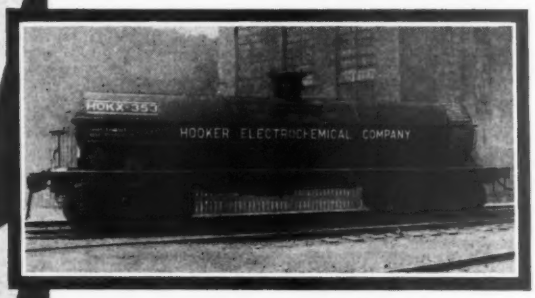
Meet Your Needs Promptly with HOOKER LIQUID CHLORINE

Hooker Plant, Tacoma, Washington



Liquid Chlorine Tank Car

Direct from the modern Hooker plant conveniently located at Tacoma, Washington, your liquid chlorine needs may be met promptly and efficiently. Hooker Liquid Chlorine of recognized quality has been serving industry for over twenty years. Through our large technical staff of specialists in the use of chlorine, many prominent pulp and paper mills have improved their production operations.
What are your requirements?

HOOKER ELECTROCHEMICAL COMPANY

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PLANT—TACOMA, WASH.
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Established 1846

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PAPER

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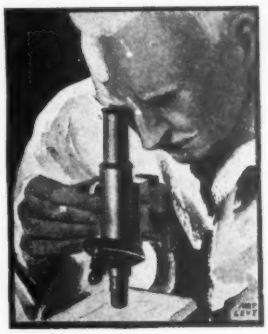
BENEFITS OF SLIME ELIMINATION THROUGH USE OF CHLORAMINES



THE DIFFICULTIES caused by slime and slime bacteria in every pulp and paper mill make their control and elimination highly important. Prevention of their entrance into and growth throughout the system is being done most effectively today through the use of chloramines.

Slime elimination means improved performance of water filters through prevention of clogging; lengthening of felt life as much as from 15% to 50%; freeing of all pipes, flow lines, screens, regulators, save-alls and sewers from obstructing slime masses; better closing up of the system and larger use of white water, with consequent saving in heat, chemicals, and stock in the water. It decreases stock loss due to bacterial decomposition of cellulose. It increases production by the elimination of slime breaks and slime spots and speeds up operation by eliminating frequent shutdowns for washing up. And it therefore contributes to pulp of better quality, pulp which takes dyes better, and which produces a brighter sheet of paper.

To use the most economical and effective method for elimination of slime is as important for efficiency as slime elimination itself. Chloramines are the most satisfactory means yet developed for killing slime bacteria, preventing their growth, and controlling odors; Great Western now makes them available to Pacific Coast mills. We shall be glad to answer inquiries with detailed information, and to assist in initial experiments and final installations.

GREAT ELECTRO-
SAN FRANCISCO
SEATTLE

WESTERN CHEMICAL CO.
LOS ANGELES
PLANT: PITTSBURG, CALIF.

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NEW YORK

The Case of Alaska

Presenting Letters of Protest From

S. L. WILLSON, President, American Paper & Pulp Association, and GEORGE W. HOUK, Executive Vice-President, Hawley Pulp & Paper Co.

Editor, Pacific Pulp and Paper Industry:

I consider your article of criticism of the American Paper and Pulp Association in your issue of August as very unfair and misleading. Reading the articles in your magazine, one is led to believe that you consider the Pacific Coast paper manufacturers represent the paper industry of the United States, or that they are a separate industry—a law unto themselves—and that all others should be guided by their views and interests. Your magazine has never to my knowledge taken any other view of their interests than that they are different—that they are away off by themselves—that their problems are local and conditions in other parts of the country cannot be considered and applied to Pacific Coast manufacturers.

Twenty-five years ago many would have agreed with many of the claims mentioned, but those views can not today prevail in view of the changes in industrial life since that time. At a time when the Coast production was no greater than the consumption in the Coast states and a complete market was found for its products, they had little reason to care what other parts of the country thought or did with their production. In the passage of time industrial conditions have changed. The enormous expansion of Pacific Coast paper mills—should impel them to consider their operations—their production—and their interests in relation to those of the entire paper industry of the United States. But do they? This is a broad country and our ideas of industry should likewise be broad.

The eastern mills have always had a market in the West—necessarily so—because enough paper was not produced on the Coast to supply the demand. That condition has changed—for now the Coast mills produce greatly in excess of Coast requirements and are compelled to seek eastern markets for their surplus production, and they seem to be principally concerned in disposing of that surplus, regardless of price or regardless of the destructive results from such action.

In reply to such a charge, you probably would say—"Well, what are the eastern mills doing to Pacific Coast mills?" I do not hold brief for any eastern or any other mill who conducts business upon that basis—in fact, I readily condemn the policy of any mill that does not recognize constructive merchandising and practice it. Often the law of the jungle operates because of the lack of cooperation, and fighting, either physically, orally or competitively, can hardly be construed as cooperation.

The American Paper and Pulp Association is a body created to represent the manufacturers of paper, pulp and converted articles, and is in a position to be helpful to the industry as a whole, if given cooperation and support. The majority interest on the Coast at present ignore the Association or its activities, except when some trouble or activity arises, where it can, as it has been, helpful, or when the efforts of the Association for the entire industry appear to be inimical to individual or Pacific Coast interests. I was personally told that the Association was of no value to Pacific Coast manufacturers, that "what we have learned through our experience belongs to us"; that in a meeting attended by one of their representatives about all they saw or learned was that everybody there seem ready, willing, and anxious to give up their "guts", and they didn't believe such a procedure was conducive to their interests.

The article referred to teems with local bias—it ignores the proposition from an industry standpoint and fails to appreciate that even upon a selfish basis, the interests of the Pacific Coast manufacturers would be enhanced by keeping production more in harmony with consumption. A mistaken theory seems to have taken hold of the Pacific Coast commentators that Canadian mills can be pushed out of the picture through a further development of Pacific Coast and Alaskan mills. I have never seen a man in business who planned to kill off a competitor so that he could wear his shoes—ever succeed in doing so—and his efforts usually resulted in his own undoing.

The Canadian pulp and paper industry will not be put out of business even if a tariff wall is built, which is very improbable. It must be recognized that a lot of American capital is invested there. So far as news print is concerned, my opinion is that with no duty on paper or pulp, the sensible view to take is that Canadian print industry was a natural expansion to the north of us, just as the Pacific Coast development was and is a natural expansion to the west of us—and the development of kraft and boards below the Mason-Dixon line is a natural development to the south of us. The regional changes have been taking place during the past twenty-five years and production will reach out into territories having raw material readily available.

We have already a bad industrial condition—a great over-production—with mills operating from fifty to sixty per cent. Why aggravate an already bad condition by bringing into the market an added unnecessary supply which would further be destructive of a fair price level? Why don't we profit by experience? We know that much of our economic troubles today are traceable to over-expansion. It was to avoid a worse condition generally, that tht American Paper and Pulp Association recommended a temporary withholding of any activities tending to create a greater over-production, and if viewed from an industry and not from a local standpoint, no other conclusion can logically be reached.

It may be a fact, as you state, but which I doubt, that newsprint products from Alaska can be sold in New York at $57.00 per ton at a profit—but price is

usually regulated by the law of supply and demand, regardless of cost, and how long would a price of $57.00 prevail if more dumping were indulged in.

I am writing this letter with the full knowledge that it will be criticised, but in doing so, I hope you will be fair enough to give all the facts—not colored by local influences and bias.

S. L. WILLSON, President
American Paper & Pulp Association
August 26, 1931.

Mr. S. L. WILLSON, President
American Paper & Pulp Association

Upon the receipt of your letter the August editorial was subjected to another analytical reading. Our conclusion is to abide by the statements therein.

The editorial was not composed in heat or haste. Its substance is purely reiteration of the stand this journal took when founded, to champion fair play in the development of the nation's pulp timber resources in the Far West.

We feel that a stand which contemplates the broad interests of the nation in meeting domestic needs with domestic supplies can not in fairness be charged with bias.

PACIFIC PULP AND PAPER INDUSTRY,
L. E. THORPE, Editor.
September 4, 1931.

Editor, Pacific Pulp and Paper Industry:

I was very much amazed at the attitude you have taken toward the American Paper and Pulp Association, because of their sincere efforts to attempt to stabilize the North America Newsprint industry—by requesting President Hoover, by executive action, to establish an Alaskan timber reserve.

We, in the newsprint business in the United States, whether we like it or not, have a common problem with Canada and Newfoundland—in the sales of newsprint—because of the tariff situation and because the bulk of Canadian and Newfoundland newsprint is sold in the United States at competitive prices to ours. Further, the United States mills are forced to run at less than 60% of their rated capacity, and even so we are better off than our neighbors to the north. To better our condition, therefore, the first thing to do—without fear or favor—is to prevent further overproduction on the continent which will, of course, occur if the government permits new newsprint production in Alaska. The rate of increase already in new capacity, over the past two years, has been greater than in any other branch of the paper industry.

In your first paragraph you say "Pacific Coast citizens have an inherent right to develop regional natural resources into domestic payrolls". You may be sure that Alaska paper mills will be the first cause for closing newsprint mills in Washington and Oregon, as this will be Alaska's logical market, and more important payrolls in Washington and Oregon will be jeopardized. I assure you that Alaskan paper mills will in fact sign the death warrant of the present generation of the United States Pacific Coast plants.

You state that the strange request of the Association at this late date is difficult to understand. I might explain that our esteemed general manager, Mr. Jesse H. Neal, has been connected with the Association for a very short length of time, and has been of tremendous benefit to the industry since he has been with us. It was lack of broad vision that prevented this action earlier.

I do not understand your statement that the "trend toward continental overproduction has been apparent for at least five years". In the year 1927 there was virtually no increase in production, and in the year 1930 a decrease of 8%. Overproduction means the ratio between actual production and demand, which, of course, in any one year could not possibly be predetermined. The fact that Alaskan pulp timber limits were open for competitive bidding more than four years ago has nothing to do with Mr. Neal's request to President Hoover.

The power surveys and cruises, which the successful bidders have invested $250,000.00 in, will—when the proper time comes—be just as valuable as they are now.

How can there be an economical loss because of overripe timber? The forests in question have been in existence for centuries, and will certainly be in as good condition a few years hence. You must appreciate that a natural forest preserves an automatic state of equilibrium or balance.

I could go on analyzing, paragraph by paragraph, your article, but I am sure you appreciate the fact that this question requires a great deal more study than was evidenced in the preparation of the article.

I might close by not questioning the authority of whoever claims that newsprint can be manufactured in Alaska and delivered in New York at $57.00, but I would like to know what the profit would be. After some experience in the production of newsprint and the study of comparative costs, as reported to the News Print Service Bureau, I can't see a profit on this basis.

GEO. W. HOUK,
Executive Vice-President,
Hawley Pulp and Paper Company.
August 21, 1931.

* * *

MR. GEORGE W. HOUK
Executive Vice-President
Hawley Pulp & Paper Company

PACIFIC PULP AND PAPER INDUSTRY is always appreciative of a frank statement of viewpoint on the part of any of its readers. We shall be glad to give space to your views in our next issue.

Our attitude in the editorial article you refer to is simply a reiteration of a fundamental policy adopted when the journal was founded, namely, to foster a constructive growth of Pacific Coast pulp timber resources.

If, as we interpret one of your paragraphs, you infer that we are criticizing the Association's general manager, Mr. Jesse H. Neal, I wish to correct the point. We are not concerned with individuals and realize fully that Mr. Neal is simply the medium thru which the Association reflects its policy.

PACIFIC PULP AND PAPER INDUSTRY,
L. E. THORPE, Editor.
August 24, 1931.

Paper Week in February, 1932

The American Paper and Pulp Association announces that Paper Week in 1932 has been set for the third week in February, beginning Monday, February 15th.

The meeting will be held at the Hotel Pennsylvania, New York, which hotel has cared for the convention for the past two years in a manner that was eminently satisfactory to all of the interested groups.

Crown Zellerbach Third Quarter Better

Crown Zellerbach Corporation for the three months ended July 31, 1931, reports consolidated net income of $1,276,559 after all charges but before deductin, minority stockholders' interest in subsidiaries, as against $1,185,086 reported on the same basis for the corresponding quarter of last year.

After deducting minority stockholders' interest of $425,769, consolidated net income for the three months ended July 31, 1931, is equivalent to approximately $3.40 per share on the 250,601 combined Series A and B preference shares outstanding.

Compares With $3.03

This compares with consolidated net income for the same quarter of last year of $3.03 computed on the same number of shares, after deducting minority stockholders' interest of $426,242.

Gross income for the three months ended July 31, 1931, amounted to $3,060,008, an increase of $203,132 over the $2,856,876 shown for the same quarter of 1930. Consolidated net income after all charges amounted to $850,790 for the period—an increase of $91,946 over the $758,844 for the same three months of last year.

All Crown Zellerbach Officers Re-Elected

The annual meeting of the stockholders of Crown Zellerbach Corporation, held August 27, was routine. All officers and directors were re-elected, including Louis Bloch, chairman of the board; I. Zellerbach, president; M. R. Higgins, chairman of the executive committee; A. B. Martin, E. M. Mills and J. D. Zellerbach, executive vice-presidents; Thomas McLaren, vice-president and treasurer; H. L. Zellerbach, vice-president; R. A. McDonald, vice-president, and D. J. Goldsmith, secretary.

Crown Willamette Earnings Up

Crown Willamette Paper Company reports net income aggregating $896,143 for the three months ended July 31, 1931, equivalent to $4.48 per share on the 200,000 shares of first preferred cumulative stock outstanding.

These earnings for the first quarter of the current fiscal year compare with $639,353, or $3.20 a share, reported in the corresponding three months of last year on the same number of outstanding first preferred shares.

During the first quarter of this year net income increased $256,795 over the same period last year—a gain of more than 40%.

Gross income likewise showed an impressive increase. Profit before depreciation, depletion, bond interest and income taxes totaled $2,239,013 for the three months ended July 31, 1931, as against $1,840,646 reported for the same quarter of last year. Gain in gross profit was $398,367, or approximately 22%.

New Interest In Priest River Project

With the arrival of R. R. Black in Priest River, Idaho, from New York City, interest has been revived in the projected 100-ton bleached kraft pulp mill which the Pacific States Pulp & Paper Company has announced they intend to construct.

Mr. Black was not inclined to discuss the pulp project nor his own connection with the enterprise. He confined his remarks to a statement that C. W. Beardmore, president of the Pacific States company would return to Priest River from New York soon and that he would be the proper one to make any official announcements.

Mr. Black was formerly with the Hardy S. Ferguson Company, consulting engineering firm, which has built a number of fine pulp and paper mills, including two on the Coast within recent years.

Favors Duty On Wood Pulp

"I am heartily in accord with the postiion taken in your August issue by Mr. Folke Becker of the Rhinelander Paper Company with respect to a duty on sulphite pulp," writes S. B. Copeland, vice-president and general manager of the Eastern Manufacturing Company of Bangor, Maine.

"A number of years ago an unsuccessful attempt was made to secure such a duty, but the need for it is now much more acute, and I hope some action may be taken by the forthcoming Congress.

"Your magazine comes to my desk each month, and I am glad to know that you are taking advantage of your opportunity to bring questions like the above very forcibly before the public."

Hawley Company Announce New Towel Lines

The Hawley Pulp and Paper Co., after manufacturing toweling stock both creped and plain for many years for converters, have announced to the trade their own line of towels and napkins. They will offer a full bleached towel under the brand name of Shasta Fibre and an unbleached natural towel under their brand of Gibraltar Fibre, also an unbleached natural towel under their brand of Sierra Fibre. These towels will be converted at the mills in Oregon City, Oregon, for distribution to their sales offices on the Pacific Coast.

They will also have a full line of bleached, creped and embossed napkins and tray covers in sizes, folded and flat, in the light, medium and heavy weights; the heavy weight embossed napkins under Shasta brand, the light weight embossed napkins and tray covers under Economy brand, the medium weight embossed napkins under Gibraltar brand, and the genuine crepe napkins under Sierra brand. These brands of napkins and tray covers will be carried in stock at the mills in Oregon City, Oregon, for distribution with their regular line of sulphite wrappings and grocery bags.

The Hawley mill in very recent years has been widening gradually its list of products. The present addition of a converting plant is in direct line with the aggressive policy of the mill in offering improved products and greater service to the trade.

W. A. Kelly, vice-president and general manager of the Hawley mills, has had many years of experience in manufacturing and converting paper towels. He was formerly with the Northern Paper Mills of Green Bay, Wisconsin. With manufacturing improvements effected in the Hawley mill executive vice-president George W. Houk explains that the intent of the company is to offer a towel with quality equal or superior to any now on the market.

At present the Hawley mill is installing a 42-inch paper towel machine, manufactured by the Paper Converting Machine Company of Green Bay, Wisconsin. This unit will have a capacity for cutting and folding 25 cases of towels per hour, and will be equipped to manufacture both the senior and junior sizes. Production will begin on October 1.

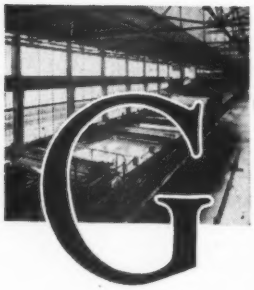
It is pointed out that a large logical market for paper towels exists on the Pacific Coast that could be supplied with local manuactures. As the market develops the Hawley company plans to install a number of additional units.

N. M. BRISBOIS

GOOD HOUSEKEEPING

Fibreboard Products Inc.

believes in planned orderliness and has found that it pays



GOOD housekeeping pays dividends, Fibreboard Products Inc. are convinced of that and have adopted a policy which substantiates this conviction. Upon entering the property at any of the various plants of this company one is particularly impressed by the well kept and orderly lawns and flower gardens surrounding the factory buildings. The appearance of the gardens indicates careful planning and continuous work.

The well ordered gardens encourage employes to keep their surroundings neat and orderly. The fact that neatness and orderliness begets neatness and orderliness has been proven many times in many ways. Most anyone would hesitate to throw refuse in an attractive flower garden, but probably would not give the act a thought if an unsightly weed patch was involved.

This policy of planned and maintained good housekeeping is practiced in all departments of the various plants of the company.

Perhaps it would be well to define the term "Good Housekeeping" as understood by Fibreboard Products Inc. to show the connection between the maintenance of lawns and gardens and good housekeeping.

Good housekeeping consists of:

1—Keeping clean and orderly personally.

2—Keeping surroundings clean and orderly.

3—Keeping buildings and equipment in best of condition.

4—Arranging equipment to facilitate and encourage orderliness, and elimination of waste motion and materials.

5—Preventing hazards of fire, accident and health.

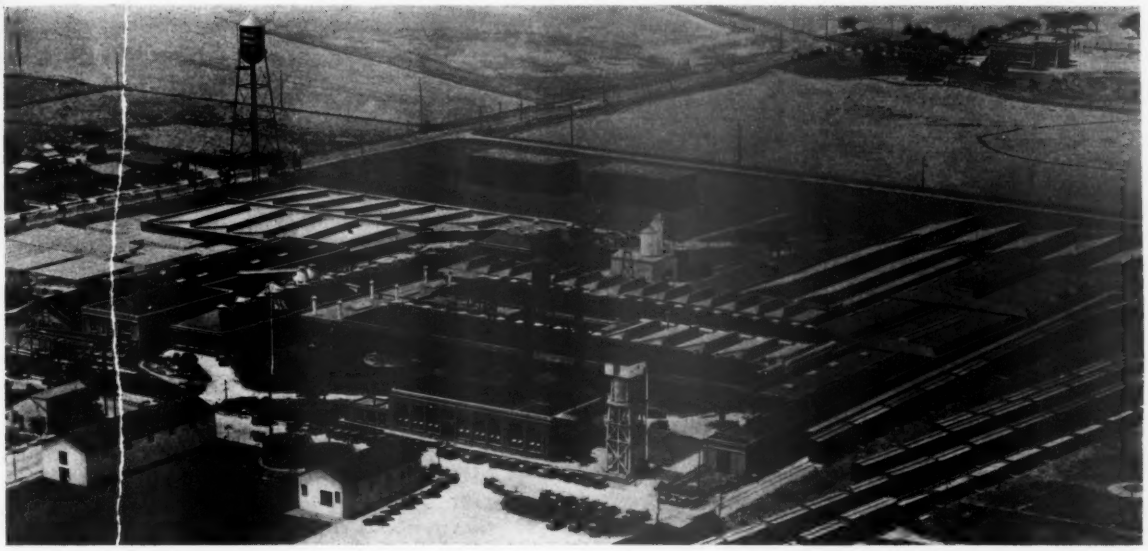
Editor's Note: This article was written with the helpful cooperation of Mr. N. M. Brisbois, general operating manager of the several Pacific Coast plants of Fibreboard Products Inc.

It may be that some of the points covered in the definition of good housekeeping belong under the definition of welfare; however, it is difficult to separate good housekeeping and welfare since one cannot exist with the exclusion of the other.

In discussion of personal habits of cleanliness and orderliness, one is immediately impressed with the thought that the person who endeavors to be clean and orderly reflects his state of mind upon his surroundings whether at home or at his work. However, the employer must do his part to assist the person when he is at work, because it is conceivable that without the interest or cooperation of the employer that the good intentions of the employe may be deadened.

The problem of the employer is not with the employe who endeavors to maintain good housekeeping, but with the one whose interest is not apparent. In the latter case, which may be more common, it is necessary for the employer to take the lead and provide conditions which will stimulate the desire of the employe to maintain good housekeeping. The consideration of the many stimulants for this general case brings us back to points covered in the definition of good housekeeping.

In keeping the surroundings clean and orderly, one of the first and easiest and perhaps one of the most effective actions would be to start cleaning up and decorating the plant surroundings. This means the planting and maintenance of lawns, flower gardens and trees.



Here is the well ordered plant of Fibreboard Products Inc. at Antioch, California. In the center foreground the flagstaff helps to identify the location a shrubbed and flowered area which would do credit to any fine park. The management values this yard sufficiently to place it in the care of full-time gardeners. The present Antioch mill, incidentally, is a descendant of one of the Pacific Coast's earliest mills.

To keep the interior of the buildings clean and orderly there must be adequate lighting. The provision of adequate lighting is not so simple as it may appear at first thought, inasmuch as it involves the provision of windows in the building, the arrangement of machinery to utilize daylight to the best advantage, the necessity of the proper kind of paint on the walls, ceilings and on machines, the number, intensity and arrangement of artificial lighting units.

It may not be practicable in all cases to obtain ideal conditions of lighting, but in the interest of good housekeeping it is practicable to keep the windows clean. It is necessary also to keep the electric light reflectors clean in order to get full advantage of the electricity that is purchased to provide light.

The interior painting of walls and ceilings of the buildings must be done to meet three requirements: To preserve structural materials, aid lighting conditions and improve appearance. All three of these requirements for paint have an important bearing on good housekeeping, but under ordinary factory conditions more painting is necessary to maintain good conditions of lighting and appearance than to preserve the structures.

White Paint

The factories of Fibreboard Products Inc. are painted white on the interior. White paint not only offers a more effective aid to lighting but is pleasing in appearance, especially when viewed as the background of machines which are painted with dark green enamel. A dark green dado about five feet high is painted on all walls. This color is used to avoid unsightly wall stains from water used to clean the floors.

Altho not primarily a feature of good housekeeping, the identification colors of pipe lines in the buildings add to the general pleasing appearance resulting from the consideration of the use of paint as an aid to good housekeeping. All traffic lanes are marked out with black paint to assist in keeping stored material in proper place. When well-defined traffic lanes are maintained, it is found that little supervision is required to keep the lanes unobstructed. This is important, since time is saved and less material is damaged.

Keeping property and equipment in the best of condition is obviously an economical consideration and probably is more generally considered on that basis. However, it must be conceded that broken window glass, rusted sash, rusted pipe lines, and broken floors cannot possibly be an incentive to good housekeeping. The same lack of interest would be evident if the workmen were required to work on machines that were not kept in good operating condition. With this in mind it is obvious that keeping buildings and equipment in good condition is a factor in good housekeeping.

Reduced Hazard

Haphazard arrangement of equipment and machines not only leads to waste motion and material, but also makes good housekeeping an undertaking that would require constant supervision for accomplishment. It has been shown that when conditions are such that good housekeeping is made easy by well planned arrangement of machines that supervision may be decreased, and—perhaps more important—that waste time and material is reduced.

One of the more outstanding justifications for good housekeeping is its aid to the reduction of fire hazards. Statistics show an appalling loss from fires caused by spontaneous combustion of oily rags, faulty electric wiring and many other conditions which exist because of the lack of good housekeeping. In the plants of Fibreboard Products Inc. special receptacles are provided for oily rags and ink rags. These containers are emptied at the end of each day as a further precaution to prevent fire.

Accident hazards caused by the lack of good housekeeping are those that contribute to three classifications: handling material, falls of persons and striking objects. Accident records of factories where good housekeeping of the highest order is maintained show that the greater percentage of accidents fall in the classifications named. Such accidents are more frequent in factories that give less consideration to good housekeeping. Such acci-

G. W. Harter, resident manager of the Fibreboard Products Inc. mill at Antioch, California, is here standing before a cluster of flowers in the Antioch mill front yard. The setting would very well pass for that of any park or fine residence garden.

dents can be reduced by keeping the work rooms well lighted, keeping floors clean, keeping traffic lanes clean, keeping materials orderly and properly piled, and having machinery well arranged and in good condition.

From a health standpoint good housekeeping discourages the habit of leaving refuse from lunches on benches and in out of the way corners. This sort of material upon decomposition becomes a hazard to healthful conditions. Good housekeeping in wash rooms and locker rooms also safeguards health. As a further aid to healthy working conditions Fibreboard Products Inc. provide automatic electrically operated coolers for drinking water. The water is maintained at a temperature of about 50° Fahrenheit. Physicians state that a plentiful supply of drinking water of proper temperature is an important contribution to health.

The company also furnishes the services of a physician and dentist to make a physical and dental examination of all employes once each year. If the examination shows that there is some physical or dental defect existing the company encourages and aids the employe to have the faults remedied. In this way many ailments which may become a serious handicap are cured before they can develop.

To Fibreboard Products Inc. good housekeeping is a part of good business and good management. Throughout this discussion the fact is apparent that each advantage gained by the practice of good housekeeping has a direct bearing upon reduction of manufacturing cost, and this, of course, is one of the objects of factory management.

Lower Prices On Cellophane

It might be interpreted as more bad news for the glassine paper manufacturers. The Du Pont Cellophane Company, Inc., has announced further reductions in the price of cellophane effective August 1.

The history of cellophane has been a steady downward trend in prices as manufacturing technique has been improved. In consequence cellophane has been enabled to invade new fields for wrapping uses where transparency was an asset.

It is also understood that by an improvement in methods at Du Pont plants the machine capacity has been very substantially increased, which accomplishes the same end as reducing costs in other directions.

New Japanese Firm To Make Rayon Pulp

The Saghalien Government has provided a surprise for the Japanese lumber market by announcing that it has granted an exclusive franchise to a group of Tokyo businessmen to purchase Saghalien timber for pulp manufacture. The pulp is to be used in the manufacture of rayon. Saghalien is the most northerly of Japan's islands, and is heavily timbered.

Pulp used for rayon in Japan now totals about 56,000,000 pounds, the greater portion of which is supplied by Sweden, Norway and other foreign countries. The tariff rate is 3 sen per 100 kin.

Japan industrialists for some years have had the idea that Japanese wood could be used for the manufacture of rayon pulp and, despite the fact that experts have declared the fibre too short, started a movement some years ago to acquire such a right as has now been granted. At that time, the Oji Paper, Fuji Paper and Karafuto Kogyo interests opposed the granting of the franchise and the plan fell through. The promoters of the original movement were headed by Messrs. Seiroku Tsutsumi, Gosuke Imai and Kaichiro Nezu.

The promoters to whom the new franchise has been granted are Messrs. Yozaemon Fujikake, managing-director of the Tokyo Rayon Company; Shingo Nakano, director of the Japan Oil Company; Tsunetaro Sasaki, managing-director of the Kwanto Gas Company; Kamekichi Yamazaki, member of the House of Peers; Shigo Nagahashi, Shigetaro Higuri and Baron Y. Maejima.

The franchise stipulates that the amount of lumber involved is 13,000,000 koku, which shall be shipped via the Rivers Chiton and Ninto. The new company must be organized within six months and have an authorized capitalization of at least 10,000,000 yen. Its plants must be in operation within two and a half years after its incorporation.

This enterprise, if successful, may seriously affect the business of Swedish and Norwegian pulp companies. Pacific Coast pulp is now getting into the Japanese rayon market also. However, the question of the suitability of the Japanese softwoods involved is a large one and, unless the company has some secret process which has not been divulged its pulp is much more likely to be used for paper making than for rayon.

The promoters have announced that half the output will be for paper and half for rayon.

Japanese papers do not believe that the original promoters are likely to form their own company, adhering to the view that they simply hope to dispose of their franchise at a profit and retire from the business.

Rayon manufacturers doubt that they will see much of the new pulp, but express their willingness to use it providing it suits their requirements as well as imported pulp.

According to reports, Mr. Nezu is backing Mr. Sasaki and Mr. Torahiko Suzuki, a former managing-directord of the Tokyo Gas Company, also is behind the movement.

Propose Further Canadian Paper Developments

Reports from Winnipeg indicate that American interests are angling with the Manitoba government on a proposition involving the investment of $30,000,000 in water power development, pulp and paper mills, and a railway in Northern Manitoba.

Thomas J. McManus, said to represent Chicago interests, is reported to have conferred with Premier John Bracken of Manitoba and other officials. Mr. McManus declined to discuss the project.

Ozone Treatment of Waste Sulphite Liquor

with reference to the effects upon cut-throat trout, chinook salmon and oysters

By H. W. NIGHTINGALE
State Sanitary Engineer
Washington State Department of Health

With the rapid development of chemical pulp manufacturing on the Pacific Coast it is natural to expect problems of stream pollution to develop, bringing with them charges of injury to marine life. Here is a discussion of practical laboratory studies covering a commercially feasible method of treating pulp mill liquors.

THE deleterious effects of waste sulphite liquor in certain dilutions upon fish life is an established fact. Owing to the large volumes of this waste liquor which are discharged daily from sulphite mills, problems have arisen in United States and Europe in connection with methods of waste sulphite liquor disposal. Although many patented processes for the utilization of the substances contained in this waste liquor are available, there is no evidence of any general usage in these processes. It is therefore apparent that a treatment of purification method is desirable at this time. In order to be commercially applicable a purification method should be relatively inexpensive and embody as few stages as possible.

As far as can be determined no experiments on ozone treatment of sulphite liquor are recorded.

In 1928 preliminary experiments concerning the effects of ozone on waste sulphite liquor were intitiated in the laboratories of the Washington State Department of Health. At this time it was demonstrated that the application of ozone to this liquor caused a lessened tendency to reduce dissolved oxygen which is necessary to sustain fish life. It was also observed that the odor of sulphur dioxide present in waste sulphite liquors disappeared after ozone treatment. In these experiments ozone was produced by a small one tube machine of 1 gram per hour capacity and was applied to the cold liquor. The supply of ozone was found to be inadequate to utilize for experiments on fish.

During the fall of 1930 an ozonator of large capacity invented by Mr. M. De Keyser of Portland became available. Through the courtesy and cooperation of Mr. H. Lundberg, western manager of the G. D. Jenssen Company, New York, Mr. George Berkey, vice-president of the Crown Willamette Paper Company of Camas, and Messrs. Natwick and Phelps of the Technical Division of the Crown Willamette Paper Company, an extensive investigation concerning the ozone treatment of waste sulphite liquor and its effects upon fry and oysters was conducted during a period of ten months.

The waste liquor after collection at Camas and ozonation in Portland was utilized at Auburn and Seattle, where laboratory facilities were available. The fish and oysters were exposed to several dilutions of the ozonated liquor in wooden troughs through which a continuous and regulated flow of water and liquor was maintained. As a check on the effects of raw waste liquor upon salmon previously published in this journal several experiments were also conducted. Only a portion of these investigations is discussed in this article.

Fry Experiments

The results of the experiments with fry are shown in the accompanying table. For comparison, the mortalities of fry in raw, ozonated and limed raw waste liquors is of interest. Zero mortalities are observed in experiments of short duration in the control troughs. Experiments of longer duration invariably show a small mortality in unpolluted control water as well as in dilutions of the ozonated waste liquor, no doubt on account of the artificial condition existing in experimental troughs.

The results in the 1:37.5 dilution or 1:150 of average undiluted waste liquor are striking. Zero mortalities are observed in the ozonated liquor dilution and mortalities from 50-100% in the raw liquors. The limed raw liquor dilution shows a marked deleterious effect even though the total SO_2 was materially reduced by liming and 18 hour sedimentation of the liquor before use. The fry in the raw liquor and to a lesser extent in the limed raw liquor showed evidences of a disappearance of the vertical black markings known as Parr marks. With liquor high in total SO_2 blindness resulted in many instances. The fry in the 1:37.5 ozonated liquor dilution showed no signs of slime, which is always noticeable in such a dilution of raw liquor.

Abnormal Effects

The fry in the raw and limed raw liquors in the above dilution showed abnormal effects in swimming. In some instances they exhibited a tendency to swim with a spiral movement belly up. In other cases they lay quiescent on the bottom of the troughs. The gills of the fry beat feverishly in the raw liquor dilution, especially when practically a zero concentration of dissolved oxygen existed. These effects were not noticeable in similar dilution of ozonated liquor.

The chemical tests in the raw and limed liquor dilution of 1:37.5 showed a high reduction in dissolved oxygen, to practically zero concentration using both the Standard Winkler method and the modified method of Theriault U. S. Public Health Service 1931. With the

ozonated liquor a smaller immediate oxygen demand resulted. The iodine absorption values indicative of SO_2 or its equivalent were much lower in the ozonated liquor dilution than in the raw liquor diluted to 1:37.5. Since the total SO_2 in the ozonated liquor before dilution is greatly reduced, the reason for these results is apparent. Only a slight splitting off of iodine absorbing elements such as thiosulphates, SO_2 and sulphites occured when ozonated liquor was diluted in fresh water. The pH in the 1:37.5 raw liquor dilution showed the presence of a greater amount of acid than did the corresponding ozonated liquor dilution. No lime was added to the ozonated liquor to increase the pH value.

The limed raw liquor containing 14 grams of lime ($Ca\ CO_3$) per gallon showed after dilution practically no increase in acidity over the normal fresh dilution water. Temperatures in the several 1:37.5 experiments showed only a slight variation.

For the 1:37.5 dilution tests, the sulphite liquor was ozonated for a shorter period (1-1.5 hours) than in later tests and in a cold state.

Fry Gain Weight

In the 1:80 dilution of 1.0125 or 1:320 of average undiluted liquor, the mortality also shows a marked difference between the raw and ozonated liquors. A mortality of 100% occurred in the raw liquor dilution in 77 hours, while only 1.33% mortality resulted in the ozonated liquor dilution in 850 hours (5 weeks) with .66% in the control under simultaneous observation.

The low mortalities occurred in both the ozonated liquor dilution and control thoughs during the early part of the 1:80 experiment after 4 and 5 days exposure for which reason there is no evidence that prolonged exposure to ozonated liquor in this dilution causes death to the fry.

In this experiment the fry in both ozonated and control troughs were fed ground raw liver, which they actively and continuously took during the entire 5 weeks period.

The average weight of the salmon fry at the start of the experiment was .6 grams per fish. After 5 weeks exposure the fry in the ozonated liquor dilution gained 25% in weight and those in the control 33.3%. These gains in weight are high and very satisfactory for a period of this length. A closer average gain for both troughs would no doubt have resulted had a larger number of fry been under observation, however this was not considered advisable since the water rate was low, averaging .8 gallons per minute in order to economize on waste liquor transportation.

Ozonation Helps

The fish in the ozonated liquor trough behaved normally during the experiment and exhibited none of the characteristics observed in the raw liquor in the 1:80 dilution. No visual evidences of reduction or disintegration of the skin pigments occurred. No slime on the fry could be observed, swimming movements were normal.

The total SO_2 in the raw liquor was between 700-800 milligrams per liter before dilution, in the 1:80 experiment, that of the ozonated liquor ranged from 70-90. These figures give average amounts of .075% for the raw and .008% for the ozonated. The liquor was ozonated for periods varying from 2-3 hours, and only near the close of the 1:80 run was ozonation of the liquor at 70°C adopted and followed by the addition of a small quantity of lime at the laboratory. The usual proportions of lime consisted of a (25% CaO +75% $CaCO_3$) mixture, of which I gram was mixed with 1 gallon of liquor. The object of liming was to raise the pH in the dilution trough and at the same time neutralize any free sulphuric acid which might be left in the liquor after partial ozonation.

The relatively small drop in pH in the 1:80 dilution of ozonated liquor shows that ozonation even without limnig reduces the acidity of the liquor.

Oyster Experiments

The oyster experiments were conducted in a laboratory located below the government locks in Seattle. Sea water was continuously pumped into the troughs from a depth of about 6 feet in order to avoid fresh water which is frequently discharged during lockages and spilling of the lake waters.

The native or Olympia oyster and the Japanese or Pacific oyster were utilized in these experiments. The oysters were obtained from the Oyster Bay region and upon arrival at the laboratory were placed in the trough for a period of 8 days. At the end of this adjustment period, the dead oysters and those showing signs of a weakened condition were culled out before the actual dilution experiments were started.

Two experimental methods were employed in this investigation. The first comprised observations of a definite number of oysters of both species placed in the liquor dilution and control troughs. The second method developed by Galstoff, U. S. Bureau of Fisheries, utilizes recording gauges or kymographs for the purpose of furnishing a record of the number of hours per day oysters are open. This information furnishes a measure of the duration of feeding time. It is evident that the trough method without recording apparatus does not readily furnish this data. The trough method, however, is of greater value in connection with mortality rates since a considerable number of oysters are under observation, whereas with the kymograph system, only a few oysters can be simultaneously studied unless a large number of recorders are available.

Weighing In

After the eight day holding period in the salt water troughs one hundred Olympia oysters were placed in the dilution trough and an equal number in the control. Six Japanese oysters were also placed in each trough. At this time the kymographs were not yet ready for installation.

The oysters in each trough were weighed at the beginning of the experiment with ozonated liquor and also at the end of this period.

The ozonated liquor was introduced into one of the troughs of flowing sea water in a dilution of 1:250 (1.0125 sp. gr.) basis and maintained for a period of 61 days.

Kymographs

After this experiment had been in progress for 20 days the kymographs were installed and 2 Olympia oysters were taken from each trough and immobilized on bricks with two lever connections to the 2 recording pens functioning on each revolving drum. The oysters attached to the kymographs were placed in the waste and control troughs with the groups of oysters under general observation. The paper charts were changed daily for the remaining 41 days of the entire 61 day experiment. The Japanese oysters were not attached to the kymographs.

During this experiment observations were constantly made regarding mantle (shell secreting organ) re-

traction, mortality, evidences of excreted matter, valve or shell openings and closures and appearances of new shell growth in each trough.

The physical and chemical data obtained was in general similar to that determined in the fry experiments with the addition of salinity titrations twice daily.

Throughout the experiment the oysters in the waste trough behaved normally. No contnuous mantle retraction was observed. Since mantle retraction results in retarded shell growth this observation is of interest.

A mortality of 3% occurred in the ozonated liquor trough during the first 14 days of contact, while a mortality of 4% was observed in the control during an 18 days period. No significance is attached to these mortality figures.

The oysters in the dilution tank produced excreta and rejected matter in considerable quantities during the 1:250 experiment and visually as great in volume as in the control.

Feeding Time

The average number of hours per day during which Olympia oysters remained open was 20.8 for the waste and 22.1 for the control. These figures are essentially equal and fail to show that the feeding time of oysters in this dilution of ozonated liquor was reduced by the presence of the treated waste liquor.

New shell growth varying from .5—1.0 millimeter was observed among oysters in both waste and control troughs.

At the close of the experiment the weights of the Olympia oysters in the shell showed a slight increase for both troughs 0.4% for the waste and 0.5% for the control. The drained (30 minuttes) weights of the oyster meats at the close of the experiment averaged 1.55 grams per oyster in the waste trough and 1.45 grams in the control. An examination of the meats showed that the oysters were in a plump condition. No discoloration of the gills or the bodies of oysters subjected to the liquor was observed.

The Japanese oysters were also in satisfactory condition at the end of the experiment. The gills were not distorted and mantle retraction was not observed. The Sendai variety showed evidences of shell growth at the shell margins in each trough. The Tokio variety did not exhibit visible growth.

The water temperatures ranged from 9°—13.5° c apparently somewhat below the spawning range for oysters. No actual spawning was observed in either trough.

Melosira filaments were observed upon microscopic examination of scrapings from the walls of the troughs and valves of the oysters. No evidences of stimulated growth could be detected in the waste trough during this experiment. A certain amount of clotting or coagulation of the microscopic life or plankton occurred in the relatively high average concentration of 1:14 of liquor in the feed barrel in which liquor was diluted with sea water containing such life. This concentraiton could not exist, however, in waters adjacent to sulphite mills located on tidal waters except at points very close to the outlets. As a result of this condition in the feed barrel a scum was observed on the wooden trough walls and to a certain extent upon the oysters which were subject to very low water velocities resulting from the one hour displacement period in the waste trough.

Low Iodine Absorption

The dilution of 1:250 (1:0125 sp. gr.) basis or 1:1000 of undiluted waste sulphite liquor represents a relatively high concentration in connection with tidal water pollution. This dilution is within the killng range of raw sulphte liquor for Olympia oysters, and the duration of the experiment (61 days) is considerably longer than the usual killing time in a similar dilution of the raw liquor.

The chemical analyses made during the 1:250 experiment showed a very low immediate iodine absorption value not materially greater than that observed in the control sea water. The values obtained in this dilution of ozonated liquor are approximately equal to that in certain raw liquor dilutions of 1:2500 on the 1:0125 basis; or 1:10,000 on the undiluted.

The drop in pH in the waste trough in the 1:250 experiment was also very small. Differences of only

(Turn to page 28)

CHART: MORTALITY AND ANALYTICAL DATA CONCERNING EXPOSURE OF CUTTHROAT TROUT (FRY), CHINOOK SALMON (FRY) AND OYSTERS TO SEVERAL CONCENTRATIONS OF RAW AND OZONATED SULPHITE LIQUORS

Liquor Dilution Troughs									
FRY or OYSTERS—	Cutthroat Trout		Chinook Salmon				Oysters Olympia		Jap'ese
Liquor Dilution on basis of 1.0125 sp. gr. at 10-14°C	1:37.5		1:37.5		1:80		1:1250	1:250	1:250
Condition of Liquor:	Raw	Ozonated	Raw	Limed	Raw	Ozonated	Raw	Ozonated	
SO_2 (total) in Liquor mg./Liter (av.)	670	150	750	750	750	80	1500	50	50
Number of Fry or Oysters	50	50	1000	25	1000	150	50	100	6
Hours Contact	4.25	48	4.25	48	77	850	288	1464	1464
Days Contact	.....	2	.....	2	3.1	35	12	61	.....
% Mortality	50.0	0.0	100	50.0	100	1.33	5.0	3.0	0.0
Hours per day open (av.)	.....	.....					13.2	20.8	.....
% Gain in weight	.....	.....	.....	.....	.....	25.0	.....	0.4	.....
pH (av.) in Trough	5.2	6.0	5.0	6.95	6.2	6.4	7.80	7.85	7.85
Dissolved Oxygen mgs./Liter (av..)	0.8	4.0	0.8	2.0	4.1	7.5	9.6	9.2	9.2
T°C (av.)	9.5	8.0	5.5	9.5	5.5	9.0	12.5	11.2	11.2
CONTROL TROUGHS—									
Number in Controls	50	50	1000	25	1000	150	50	100	6
Experimental Period (hours)	4.25	48	4.25	48	77	850	288	1464	1464
Experimental Period (days)	.....	2	.....	2	3.1	35	12	61	61
% Mortality	0.0	0.0	0.0	0.0	.....	.66	0.0	4.0	.....
Hours per Day open (av.)	.....	.....					23.0	22.1	.....
% Gain in Weight	.....	.....	.....	.....	.....	33.0	.....	0.5	.....
pH (av.) in Trough	7.3	7.3	7.3	7.0	7.3	6.95	8.0	7.9	7.9
Dissolved Oxygen mgs./Liter (av.)	11.0	11.0	11.0	11.8	11.2	11.8	10.2	9.6	9.6
T°C (av.)	9.5	8.0	5.5	9.5	5.5	9.0	12.5	11.2	11.2

A New Principle in

CHIP SCREENING

Explained in this article

By SIGURD NORMAN
Sumner Iron Works, Everett, Washington

ONE cardinal operating principle subscribed to by the pulp and paper industry is that exclusion of dirt by all possible precaution is necessary to the production of products having the high standard of cleanliness demanded by the trade today. In applying the principle the operator first turns his attention to the wood pile in that a good start toward absolute cleanliness in this first department of the mill will make the path much easier, resolving other subsequent mill operations into the more simple matter of keeping dirt out.

It is realized by all pulp men that particles of bark allowed to enter the digester with the chips cannot efficiently be removed in the ensuing process. Therefore the wood is washed, bad knots are cut out and all pains are taken to make the wood as clean as possible when passing thru the chippers. It frequently happens, however, that bad knots will occasionally pass unnoticed and hidden dirt will come to view only when the wood is chipped.

Air is such a flexible commodity, willing to perform many useful tasks in industry if harnessed with ingenuity. In the method and machines herein discussed is found a somewhat radical departure from previous practice in wood chip refining, with air playing a new and important part.

A criticism of mechanical screens is that no matter how efficient they may be in chip classification they are only able to remove a part of the multitude of fine particles of dust and bark which will adhere to the surface of the chips. As water showers are used freely in the wood room the problem of removing the adhering particles of such bark becomes the more difficult because the wetter the chips the greater the affinity between them and the dust particles.

Carried into the digester such of these small particles as consist only of sound wood will be cooked long before the chips of proper size and the result is they yield no pulp. The loss here is not in lowering quality thru addition of dirt but in lowering the digester yield due to the space uselessly occupied by the small particles. However, as pulp operators know only too well, bark will not cook in the digester. Instead it has the nasty habit of following the pulp thru the process and infiltrating the final product with numerous tiny specks. Some of the bark is, of course, caught in the screens; some may be bleached out by over-bleaching the stock with a result of loss of pulp strength.

However, all of these subsequent traps for catching the dirt particles that are permitted to get into the process in the wood room are somewhat comparable to prescribing treatment for a disease incurred when a more practical approach to the problem would have demanded an application of preventatives rather than cures.

New Principle

It was with the idea of eliminating these troublesome small particles that study was turned to the application of a new principle. It was conceived that a blast of air might be used to induce a violent tumbling of the chips along a screen surface, thus jarring loose the adhering particles from the chips and carrying them thru into a dust trap while the chips are retained on the screen surface.

From this thot the Norman Chip Duster was developed by experimentation. The machine is designed to remove the fine particles of wood and bark that a mechanical screen is unable to extract.

There is nothing complicated in the design of the Norman Chip Duster. As will be seen from the accompanying illustration the chip duster has the general appearance of a large question mark. Its principal parts consist of a blower delivering a blast of air to a curved duct housing a wire screen into which at the top the chips are fed thru a hopper which also acts as an air seal.

The chips are forced into the top of the duster by means of a feeder. As they are falling into the chip chamber a blast of air produced by the blower will force

the chips against the under surface of the screen at first contact. The screen is curved to avoid plugging and unnecessary breakage of the chips. A primary separation of sawdust is produced at the first contact of the chips with the air blast. The chips tumble along the surface of the screen following the curve until they are riding on the inclined upper surface in the last stages of their journey thru the duster.

While being tumbled along the face of the screen such dust as has not already been removed from the chips by the first contact will separate thru the vigorous shaking and be carried off thru the screen by the combined action of air and gravity. The dust particles are lead thru a dust outlet where the residue may be collected either by means of a cyclone or sprayed with water. The clean chips drop into the expeller which feeds them to the chip conveyor.

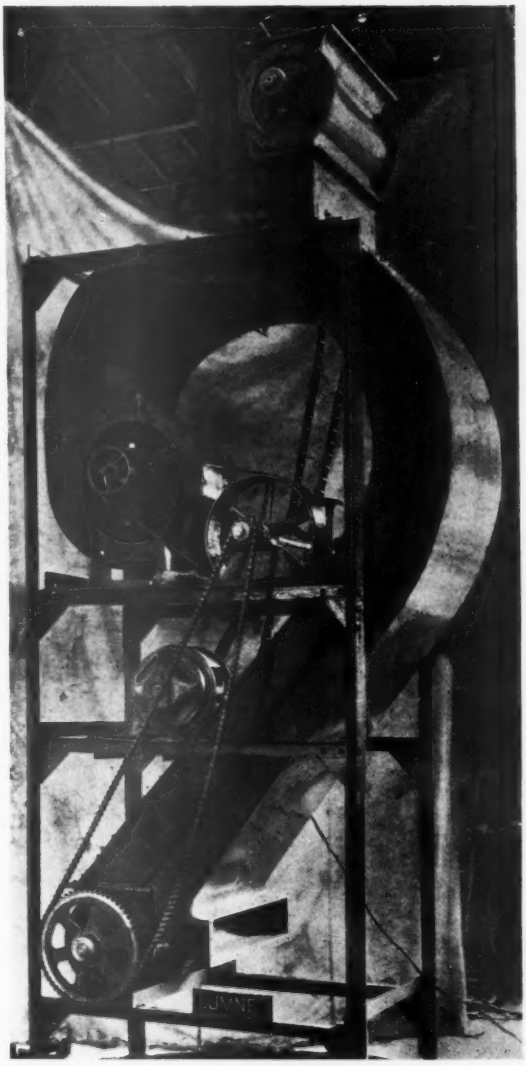
An important feature in the design of the duster is the tight construction of the chamber which prevents escape of air thru the chip intake and outlet. All of the air volume induced by the blower fan must pass thru the screen and discharge thru the dust outlet. The air duct has the same volume thruout its length to eliminate the possibility of air current eddies. This has been found to be an important feature. The blower has a capacity of 4000 cubic feet of air per minute.

The duster needs very little attention because the screen is self-cleaning and no chips can lodge in the mesh. The only wearing parts are the wire screen and the rubber strip acting as a seal in the feeder and the expeller. These parts have been designed so as to be easily accessible. The duster is self-contained. It is driven by a 7½ h.p. motor with the fan and drive for the feeder and expeller mounted right in the machine. The total weight of the unit is about 3,200 pounds. In mounting no special foundation is necessary such as is usually required with mechanical screens due to their vibrating nature.

The chip duster is of course still new, but several installations have already been made in Pacific Coast pulp mills.

In a shop experiment samples of chips were taken from a mill after screening and acceptance for the digester. By rescreening and dusting these chips dust and dirt particles equivalent to 40 pounds per ton of pulp were taken out. This point is made to show that often dirt remains in rather unexpected quantities in chips that are supposedly as clean as can be.

The Norman Chip Duster is manufactured on the West Coast by the Sumner Iron Works of Everett, Washington, and in the East by Fibremaking Processes Inc., Chicago, Ill.



The mechanics of the Norman Chip Duster may be easily studied from the illustrated shop set up. The hopper at the top houses a chip injecting paddle, fitted with blades to provide an air seal. The long curved duct is an air flume, inside of which is a chip screen, easily traceable by the split in the casing. The lower end of the duct has two outlets, one for dust rejects, and the other for accepted chips. The air volume is expelled with the dust, while another ejector serves as a lower air seal. The fan is placed in the upper curved end of the air duct. Injector, ejector, and fan are all driven by the same centrally mounted motor. Glass covered peepholes are provided for checking performance.

Watab Paper Company Executive Visits Coast

C. H. Phipps, sales manager of the Watab Paper Company of Sartell, Minnesota, returned to his home offices in mid-August following a trip to the Pacific Coast, in the course of which he visited several of the Western mills.

"We have for several years been purchasers of pulp from West Coast mills," Mr. Phipps states, "and now have contracts for supplies of both bleached and unbleached Western pulps.

"My trip to the Coast was on business matters and with the view in mind of looking over these sources of supply of sulphite pulp. I was quite impressed with the paper operations on the Pacific Coast.

"I think it is only a question of time until there will be a still further increase in the manufacture of paper on the Coast as there seems to be an abundance of timber at reasonable prices, and an abundance of cheap fuel, and with the exceedingly low rates for shipments, these things will have a tendency to draw other manufacturers to the Coast from points in the East and central West where the dwindling supplies of raw materials are getting lower all the time and the price is getting higher.

"You have some wonderful plants, and I have visited a great many sulphite mills and paper mills in other parts of the country. One of your West Coast plants in particular is the finest plant I have ever seen. It is absolutely the last word in sulphite plants."

Albany Felt Expert Visits Coast

In this day of service the interpretation of the word is large. At any event, John C. Standish, general superintendent of the Albany Felt Company's big plant at Albany, New York, came out to the Pacific Coast last month and made a thorough visit to western mills in the company of Harry Stilwell, Pacific Coast representative of the Albany company.

Mr. Standish wanted to see the Pacific Coast operations at first hand, feeling that visualization of the West-

John C. Standish (left), general superintendent of the Albany Felt Company, poses with Harry Stilwell, Pacific Coast representative, on the occasion of the former's Western trip.

ern mills would pave the way for a greater degree of service between paper mill and felt mill.

Graduated from the Lowell Textile Institute as a textile chemist, Mr. Standish has spent his entire life in the felt manufacturing business. He has been with the Albany company for ten years.

At the Albany felt mill Mr. Standish is in charge of manufacturing "from clip to the shipping crate". He has personal supervision of the wool buying, so he knows absolutely what goes thru the looms.

In the years he has been in the felt manufacturing business Mr. Standish has witnessed a great development in felt technique that has by force had to run parallel to the advance in paper manufacturing technique.

"Today," he points out, "paper machines are much faster. It means that the felt must do more work in less time, shed the water faster, be stronger, and provide a better finish. Speed and finish have to be built into the same felt.

"Today felts are required for much larger machines. The effect is that the felt manufacturer must equip his plant with much more expensive machinery to take care of these large sizes.

"There is a great tendency today to specialize in manufacturing felts for individual positions in the mill. I am rather proud to say that Albany Felt Company pioneered in this idea of building 'tailor-made' felts. This specialization has also injected new angles into the sales problem. The salesman has become more of a contact representative to communicate the wants and needs of the paper mill to the felt manufacturer in a common language."

Ozonation (Continued from page 25)

.05—.1 pH were observed. This fact is of definite interest in connection with the possibility of any effect toward a progressive reduction in the alkaline salts or excess base present in sea water.

Salt content of the sea water in this experiment ranged from thirteen to fifteen thousand milligrams per liter or a similar range observed in the Olympia oyster region.

An experiment was also conducted with Olympia oysters to determine the effects produced by the raw liquor in a dilution of 1:1250 (1:0125 sp. gr.) basis or 1:5000 undiluted liquor.

A contact period of 12 days was utilized. During this relatively short period the average number of hours per day during which the oysters in the waste trough were open was 13.2, and 23.0 for the control.

These figures show that the feeding time of Olympia oysters is considerably reduced in a relatively high dilution of raw sulphite liquor. Such a condition would ultimately result in death. None of the 4 oysters attached to the kymograph died. However, a mortality of 5% was observed among 50 oysters under general observation in the waste trough and 0% in the control.

This liquor before dilution was higher in total SO_2 than the usual blow pit liquor from most mills.

The dilution was sufficiently high to avoid any marked lowering of the pH and relatively low iodine absorption figures were obtained.

Over a longer period than 12 days a more striking contrast between this experiment and the 1:250 ozonated liquor run would be presented.

The 1:0125 sp. gr. basis is used throughout these tests since it represents an average density of blow pit liquor resulting from the proportions of 1 part digester liquor plus 3 parts of wash water.

Low Cost

An initial dilution should necessarily be taken into account in all investigations concerning the ultimate dilution of this liquor existing in waters adjacent to pulp mill discharge. A fair comparison of the effects of the raw liquor in gven dilutions is not obtained if raw digester liquor, which contains a higher total SO_2 content than the blow pit liquor, is used. There is no doubt that SO_2 is one of the factors which deleteriously affect fish life.

The oxygen demand and acidity of the waste liquor are reduced by ozonation, total SO_2 is greatly lowered and certain volatile constituents such as formic acid are undoubtedly removed during ozonation of the hot liquor. A precipitation of calcium sulphate occurs after ozonation. There is no evidence in the liquor of calcium monosulphite after ozonation. The sugar content of the liquor is increased. Coagulants such as alum and copperas with lime decolorize certain dilutions of ozonated sulphite liquor.

The cost of ozone treatment of waste sulphite liquor for the purpose of protecting fish life is estimated at approximately 30 to 35 cents per ton of pulp. Waste liquors containing relatively high percentages of total SO_2 0.15% and above would require dilution before ozone treatment. The power cost of ozone production is estimated at six dollars per 1420 pounds of ozone on the basis of 6 mills per K.W.H. In the ozonation process the hot blow pit liquor in tanks would be subjected to a current of ozone contained in air blown through the liquid for a period of two to three hours.

Conclusions

These experiments demnstrate that young salmon, cutthroat trout and oysters do not exhibit the deleterious effects in relatively high concentrations of ozonated liquor that are observed in similar dilutions of raw wsate sulphite liquor. Excess lime treatment of the raw liquor is not sufficient to prevent these effects.

The process of ozonation is practical on a commercial scale and its utilization is recommended as a means of treatment of waste sulphite liquor in most mill locations where problems concerning effects upon fish life have arisen.

Forced Circulation

in Sulphite Pulp Digesters

A Description of the Jenssen-Brobeck System

By H. LUNDBERG
Pacific Coast Representative
G. D. Jenssen Company

CIRCULATION in the digester is probably the most important of all the variables influencing the uniformity of the finished product in the manufacture of sulphite pulp. It has a direct bearing on the uniformity of the pressure, temperature and acid concentration to which the chips are exposed during the digesting process.

Circulation is produced in Ritter-Kellner and Mitscherlich processes by uneven temperatures in the digesters. Some mills have installed pumps to assist this natural circulation and thereby improve the uniformity of the pulp.

In these processes the contents of the lower part of the digester come into direct contact with the heating medium, either live steam or steam heated coils. At such contact points local overheating takes place which causes the pulp at these points to be overcooked before some of the chips in the digester have been thoroughly pulped.

In the sulphate process this problem has been adequately solved by the use of forced circulation through an outside heater. Engineers have tried for years to adapt this principle to the sulphite process but have been handicapped by being unable to obtain suitable acid resisting metals for the auxiliary piping and pumps. The recent development of chromium-nickel steel alloys has made the forced circulation system possible for sulphite digester operation.

Development of the System

Arne Brobeck, chief engineer of the Korsnas Wood Company is the inventor of the forced circulation system which bears his name. Based on research and laboratory experiments covering a period of several years a full size system was installed two years ago on one digester in the sulphite mill at Karskaer, Sweden, and met with immediate success.

All the digesters at Karskaer are now equipped for the Brobeck system of cooking and have been operating for more than a year. It is worth noting that the pulp produced is sold at a premium of $3.25 above the price paid for indirectly cooked sulphite pulp in Sweden. In another Swedish mill the pulp cooked by the Brobeck system proved to be better than other pulp cooked in rotary digesters in the same mill. Representatives of other manufacturers have visited Brobeck's mill and have checked his results and during 1930 and 1931 sixty complete Brobeck systems have been installed in or ordered by pulp manufacturers. The Brobeck system is patented in all the pulp making countries and is now being introduced into America only after it has proved to be successful commercially in Europe.

By the use of a double strainer, clogging is avoided and, depending on the size of the digester, a circulation of up to 3000 gallons per minute is maintained for nearly the entire cook. The rapid circulation through the heater together with the use of the double strainer and special treatment of the heating tubes prevents mono-sulphite from depositing in the heater tubes.

The operation is so simple that with a constant steam pressure of 50 to 60 pounds it may be said to be automatic and the only duty of the sulphite cook is to see that the circulating pump is running and to watch the end point. Any grade of pulp from easy bleaching to very strong may be produced at will in the same digester.

H. LUNDBERG

As there is no dilution of the cooking liquor the final relief of gas is very rapid and efficient and the condensate from the heater is returned directly to the boilers for feed water without introducing any danger of acid corrosion.

High Free SO_2

The heater is designed to bring up the temperature within the time limit desired. Any digester pressure up to the limit allowed by the insurance underwriters may be maintained. In the Brobeck system the highest possible free SO_2 can be maintained in the digester up to the start of relief. This is impossible with a direct cook since an early relief is necessary which causes loss of free SO_2 from the liquor much earlier than in the Brobeck system.

In ordinary cooks of from 10 to 12 hours a maximum temperature of 130 deg. C. is found ample for com-

plete digestion but it will be necessary to use somewhat higher temperatures if shorter cooks are desired.

Test Results

Tests have been made to demonstrate the uniformity of the pulp in all parts of the digester at the end of the cook. In experimenting, sample baskets were distributed in the digestaer. These had been filled with chips and subjected to the Brobeck cooking process. Bleachability tests made on the contents of each basket showed exceptional uniformity.

Misroscopical measurement of the fibers have proven that they are 9% larger than that of Mitscherlich pulp previously produced in the same digesters.

Since the pulp is uniform the yield is increased and the consumption of chemicals reduced. The steam consumption of chemicals is reduced. The steam consumption, allowing for a credit on returned condensate, should be around 4000 pounds per ton, depending on the grade of wood used and pulp produced.

Morden Sees Signs of Business Improvement

Following a trip of several weeks duration in the Eastern states C. W. Morden, president of the Morden Machines Company, Portland, is back on the Pacific Coast encouraged over the signs of business revival.

"Going back during the summer months," Mr. Morden said, "I had expected to find a fairly large number of the mill executives away on vacations. To the contrary, I found attendance at the mills just about 100%. This was a rather significant and interesting sign, for it seemed to indicate that the mill managements were concentrating on manufacturing problems in an endeavor to attune costs with present sales prices. The eventual benefit of such concentration can not help but reestablish the industry on a more healthy basis.

"In the mills I found that the idle time of the past two years had been used effectively in many organizations to carry out improvements. There was an apparent tendency to keep working forces together and make use of their time to do those many little things about the plant that would put it in first class condition to take care of a full volume of orders when business picked up.

"Operation schedules seem to be improving and I found a distinctly more optimistic tone prevailing and much encouragement over the prospects of the future."

New Zealand Forester To Visit Coast Mills

Making a long journey from "down under" Professor H. H. Corbin is scheduled to arrive in San Francisco on September 25 for the purpose of studying the pulp and paper industry of the Pacific Coast for Timberlands Woodpulp Ltd., a New Zealand project for the development of native timber resources into wood pulp industries.

Professor Corbin is a member of the British Empire Foresters and has only recently resigned the Chair of Forestry at the New Zealand University. He holds the honorary degrees of B. Sc., Lon., and B. Sc., Edin. University. He is in charge of forestry operations for Timberlands Woodpulp Ltd.

The visitor has expressed a desire to visit representative pulp and paper mills of the region and to study timber supplies and logging methods.

Timberlands Woodpulp Ltd. has long been a subscriber of PACIFIC PULP AND PAPER INDUSTRY, thru which journal its executives have "followed with interest the great progress of the pulp and paper industry on the Pacific Coast."

Johnson Ground Wood Noodle Storage System

Described by GEORGE P. BERKEY
Vice President, Crown Willamette Paper Company

From the time the Willamette Pulp & Paper Company, now the Crown Willamette Paper Company, started to make paper at West Linn, they have had in mind some system to economically store ground wood pulp and thereby reduce pulp handling costs. The storing of pulp is made necessary at this plant because of the intermittent water power. The handling of pulp similar to the system we are going to outline was the dream of the late William Pierce Johnson and hence is called the "Johnson Ground Wood Noodle Storage System".

The idea was tried out in various ways and developed over a period of years at West Linn. This experimental work culminated in a patent application which has since been granted and the company is now storing approximately 20,000 tons air dry weight of groundwood in noodle form. The pulp is doctored off the wet machines, conveyed on belts to a charger and blown to concrete areas in the yard almost automatically.

A brief description of storing and reclaiming ground wood pulp is as follows:

Wet machines are lined up so that the pulp can be continuously delivered from the top press roll and dropped onto a moving belt, which delivers the pulp to a charger. This charger is connected up with a blower, which forces the pulp out of the different compartments of the charger, disintegrating same and carrying it through a pipe to the desired concreted areas in the yard.

The pulp delivered in this manner is from 17% to 20% air dry: just heavy enough to settle without blowing and packed properly to close up the voids.

The floor of the concreted areas where this pulp is discharged is sloped conveniently to numerous ditches, which lead to a central pump pit. To reclaim the stock, a high pressure water system is used and the pulp is sluiced down similar to methods used in mining operations.

To put this pulp out requires the attention of one man per shift and as much as 100 tons, air dry, can be delivered to the yard in 24 hours. Reclaiming the pulp requires one man per shift and as much as 350 tons has been reclaimed in 24 hours.

Of course the object of the whole system was to reduce costs over the old method of lapping and storing pulp and again trucking, conveying and shredding. However, after being in operation, another favorable feature has been disclosed and that is that the pulp is packed so tight that it prevents the air and dirt from getting through the pile and, therefore, reduces the blackening caused by bacteria.

The system has many new and novel features and is amply covered by patents.

Lester David Returns To Coast

Lester W. David, who promoted and built the mill at Ocean Falls, B. C., after a year's absence in the East has returned to the Pacific Coast and located in Portland. While he has not announced his purpose in coming back to the Pacific Northwest, it is believed a matter to be of interest to the pulp and paper industry. He is thought to be working on a kraft pulp and paper mill for this district, as it is understood that that was the matter that took him East.

When the San Francisco Shopping News celebrated its ninth anniversary, Blake, Moffitt & Towne got an order for 250 tons of newsprint. Powell River Company Ltd. supplied the paper and everybody made an event of it with a parade.

Humidity Control Room at Hawley Mill

Paper samples at the Hawley Pulp & Paper Company are now kept under a humidity control system. The wide variations in paper tests which may occur under conditions of varying humidity are well recognized.

The humidity control system for Hawley's sample room was developed by Ray J. Schadt, head of the Technical Control Department of the Oregon City, Oregon mill.

All out-turn samples and samples for the trade are filed in the new room, thus insuring constant moisture and representative quality over a long period of time.

Pulp Men Protest Freight Rate Increases

Under existing tariffs, freight amounts to 40% of the selling price of pulp at the mill, and the 15% increase in freight rates for which the railroads have petitioned would destroy the Midwest market and "automatically close down plants on the Pacific Coast," O. M. Allison, Portland attorney and secretary of the Spaulding Pulp & Paper Company, Newberg, Oregon, told commissioners and examiners of the Interstate Commerce Commission during the commission hearing in Portland August 12 to 15.

Mr. Allison was the only direct representative of the pulp and paper industry to appear. He spoke only on behalf of his own company, but as representative of the pulp mill opinion. Colonel William B. Greeley, manager of the West Coast Lumbermen's Association, speaking for the timber interests, spoke of the effect of the proposed increase on pulpwood. Other coast pulp and paper interests were to appear at the San Francisco hearing.

"We are depending entirely on rail shipments in disposing of the product of the mill," Mr. Allison said in his statement. "The larger portion of our products, consisting of about 18,000 tons per year of out-bound pulp, is moved into the state of Minnesota, Wisconsin, Michigan, Illinois, Ohio and Indiana. Based on our present freight rates, our average rate into these territories is $12.50 per ton, or approximately $225,000 per year.

"An increase of 15% over our present freight rates would mean an additional $1.88 per ton, or $33,750 per year on our present basis of production. Such an increase would make it impossible to market our products in the middle west and would destroy entirely our market and require us to close the mill. The present freight rate amounts to over 40% of our selling price at the mill.

"All points reached either by Atlantic or Great Lake ports are very competitive, owing to the fact that Canadian pulp and European pulp can be brought to such points at a considerably less cost than the all rail rate or combination water and rail. For instance, the all rail rate from here to Hamilton, Ohio, is $13 per ton. If the increase is granted this freight rate will be boosted to $14.95 per ton.

"Rates from Europe to Baltimore on pulp are about $4.25. There is a preferential rate of $5.80 per ton on import, or altogether a little over $10.00. Rail and water shipments from the Pacific Coast to the the same territory would amount to $5.00 water and $6.60 rail, or a total of $11.60.

"To Chicago the rail rate from here is $12.00 per ton; by rail and water, $10.20, while Canadian mills and European mills are able to reach this territory at a freight rate of from $6 to $8 per ton.

"Practically all points which can be reached by water and rail on the European or Canadian mills have now a decided advantage and it is very difficult for us to compete with mills in the middle west and impossible to compete with mills directly located on ports on the Atlantic seaboard or on the Great Lakes.

"Existing conditions in the pulp and paper industry are such that pulp is being sold at a price less than the actual cost, and any increase in freight rates which may be granted will automatically close down plants on the Pacific Coast and those who are working under similar conditions. There have been no profits, but on the other hand there has been a steady loss for the last year or two and the little business which can be had now is so competitive that foreign mills have had the opportunity of underselling domestic mills because of their advantage in rates."

Ostenson Heads Camas Divot Diggers

Following a highly successful mill tournament the paper makers at the big 350-ton mill of the Crown Willamette Paper Company at Camas, Washington, all admitted that they had been seriously infected with the tenacious golf bacteria.

The only thing to do about it was to organize a permanent golf group and thus mitigate the effects of the ailment. Consequently the men got together and elected H. E. Ostenson president of the Crown Willamette Golf Association. Howard M. Green was elected vice-president and William Benson got the post of secretary-treasurer.

J. L. Shively, Fred C. Stevey, and George W. Charters were elected counselors—maybe to give advice in the sand traps.

T-R-A-D-E - T-A-L-K

Devoted to the Paper Trade of the Western States

1931 OFFICERS
PACIFIC STATES PAPER TRADE ASSOCIATION

President
George I. Tompkins, Sierra Paper Co., Los Angeles.

Executive 1st Vice-President
H. L. Zellerbach, Zellerbach Paper Company, San Francisco.

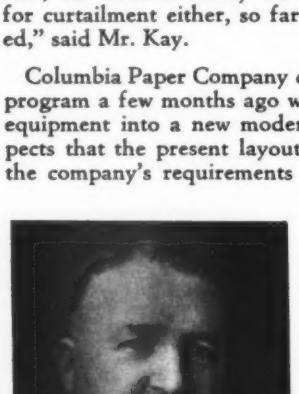
Vice-Presidents
B. G. Ewing, B. G. Ewing Paper Company, Spokane.
C. H. Fricke, Taverner & Fricke, Los Angeles.
F. E. Jeffries, Tacoma Paper & Stationery Co., Tacoma.
A. W. Towne, Blake, Moffitt & Towne, San Francisco.

Secretary-Treasurer
H. Arthur Dunn, San Francisco.

The British Columbia market for stationery and most lines of paper has been steady, according to C. J. Kay, managing director of Columbia Paper Company, Vancouver.

"We do not regard the present as a time for expansion, but most certainly we have not found it a time for curtailment either, so far as production is concerned," said Mr. Kay.

Columbia Paper Company completed its improvement program a few months ago when it moved its staff and equipment into a new modern building. Mr. Kay expects that the present layout will be adequate to meet the company's requirements for some little time.



C. J. KAY,
Columbia Paper Company,
Vancouver, B. C.

Will Not Hold Fall Meeting At Portland

The plan to hold a regional conference of the Pacific States Paper Trade Association at Portland in the Fall has been abandoned, it is announced by Secretary H. A. Dunn. The proposal was first made at the regular annual meeting of the association held at Del Monte in May.

West Coast Idea Gets Award

Nancy Baker Tompkins, who conducts an advisory service on paper at 726 Bendix Building, Los Angeles, informs that when the Direct Mail Leaders Exhibit winners for 1931 were selected on June 16, California again this year received one of the awards. This award was made to the Arrowhead Springs Hotel Company, Arrowhead Springs, California, and was predicted on a series of most unusual illustrated letterheads.

The Arrowhead account is handled by Earnshaw-Young Inc., of Los Angeles, and the letterheads were printed by the Monarch Press, Los Angeles.

"The Graphic Arts Leaders is an annual affair," Mrs. Tompkins states," and is very ably directed by George W. Ward, president of the D. L. Ward Paper Company, Philadelphia, who is chairman of the Educational Committee of the Direct Mail Leaders Advertising Association, which is a national organization."

Portland Jobbers Tighten Credit

Falling in line with similar moves in other Pacific Coast cities the Paper Dealers' Credit Association of Portland was organized last month to put a few teeth in the credit situation. A statement to purchasers of printing paper on new credit rules was signed by the four following firms: Blake, Moffitt & Towne; Carter, Rice & Company, Corporation; J. W. P. McFall; and Zellerbach Paper Company.

The new association points out that "for the purpose of maintaining sound trade practices and principles" definite credit terms have been established as the initial step in a progressive policy, "the observance of which must prove mutually beneficial to buyers and sellers of printing papers."

The plan became effective September 1. It provides 2% cash discount for bills paid on or before the 15th of the month after billing, net on the day following. Unpaid accounts then become past due. After another 30 days further credit accommodations are discontinued until the account is brought within the time limits.

New Concern For Los Angeles

George Buzza and Rolph Cardozo, formerly connected with the Buzza Company, Minneapolis, one of the biggest greeting card manufacturers in the world, have formed the George Buzza Studios, Bendix Building, Los Angeles, it was announced recently.

Both Mr. Buzza and Mr. Cardozo have severed their connection with the Buzza Company and will manufacture a line of greeting cards and party goods. Mr. Cardozo states that they will buy their supply of card stock on the Pacific Coast and from foreign sources. They are interested in anything of an unusual nature in the way of card stock or fancy papers, in kraft or colors.

Ed Doran, vice-president and general manager of Blake, Moffitt & Towne, left his San Francisco desk in August for two weeks of vacation at Lake Tahoe.

These two men have been associated in business for thirty years.

At the left is

ROY E. DAVISON
President of the
Standard Paper Company of Tacoma

and at the right is

FRANK A. WILHELMI
the company's able vice-president.

Here's a Record to Shoot At

Roy E. Davison and Frank A. Wilhelmi have been associated in the business of the Standard Paper Company of Tacoma, and its predecessors, for more than 30 years. Today they are president and vice president respectively of this well established institution.

As though to make the tie stronger they even have their birthdays together. Mr. Davison had a four-year start on Mr. Wilhelmi, but they have been in step in other respects ever since.

Mr. Davison came west from his birthplace, Chicago, at the age of 16 and subsequently was in newspaper circulation work, printing, and for 39 years with Standard Paper Company or its ancestors.

Mr. Wilhemi was born in St. Paul. He came to Tacoma in 1909 and got a job with Mr. Davison, and has been there since.

Standard Paper Company carries a wide line of all grades of paper, and in addition has side items of roofing, twine, and what not. They've been doing business at the old stand on Pacific Avenue for a good many years, but there's some talk that the company is going to have a new and bigger home before long.

Zellerbach Has New Department

The Zellerbach Paper Co. is now distributing the complete line of Tulip paper drinking cups and Nestrite containers through its chain of wholesale and retail paper houses along the Pacific Coast. Major Joseph Florsheim is in charge of a newly organized department at the Zellerbach headquarters at San Francisco directing the promotion and distribution of these cups and containers.

Major Florsheim's department is interested in selling the line to food distributors, manufacturers and other prospective customers. Considerable research work is being done to find new products which can be packed and dispensed from these modern containers. Work is being done now on an idea for a frozen drink, a new meat mixture, a diced fish and also on a special package for quick freezing food.

The Tulip line is manufactured by the Lily Tulip Corporation in New York and consists of Tulip paper drinking cups, Nestrite containers, souffle cups, baking cups, ice cream cups and finger bowl liners.

Major Florsheim comes to the Zellerbach firm with considerable of a war record. During the great conflict he was assistant to the American high commissioner in Hungary and assistant to the provost marshal general of the American Expeditionary Forces.

In the Los Angeles Trade

Gordon Murphy, Zellerbach Paper Company, Los Angeles, recently returned from his two weeks vacation, spent in San Francisco and the High Sierra.

* * *

C. C. Covington, manager of the El Paso branch Graham Paper Company, recently spent his vacation in Long Beach.

* * *

Ralph Pateman, Phoenix, Arizona, representative Graham Paper Company, was a recent visitor to Los Angeles on his vacation.

* * *

Frank A. Borchers, Western sales manager Oxford Paper Company, Rumford, Maine, with headquarters in Chicago, was a recent visitor to the Los Angeles trade.

* * *

John Wesley, sales manager Rhinelander Paper Co., Rhinelander, Wisconsin, was a recent visitor to Los Angeles.

* * *

J. S. Colbran, vice-president General Paper Company, Los Angeles, spent some time last month at the San Francisco office of the concern.

* * *

E. W. Buckley, president Buckley-Lynch Paper Company, Los Angeles, recently spent a ten-day vacation in the High Sierra fishing.

To Attend National Trade Convention

George I. Tompkins, of Los Angeles, president of the Pacific States Paper Trade Association, leaves for Chicago soon to attend the convention there of the National Paper Trade Association, October 4, 5 and 6.

H. Arthur Dunn, San Francisco, secretary of the Pacific States association, may also attend this Chicago convention and it is also reported Harold Zellerbach, president of the Zellerbach Paper Co., will make the trip.

Five-Day Week For Denver Paper Firm

The Carter, Rice and Carpenter Paper Company, of Denver, has come around to a five-day week in place of the former five and a half days. This system has been devised thru the plan of having each employe take off one day a week. Thru this plan the company has found it unnecessary to make any pay cuts or to lay off any workers. As a further unemployment preventative the company has asked employes to take two weeks vacation, one week of which is to be with pay.

New Rumors Surround Fir-Tex

Possibility that the Fir-Tex Insulating Board Company of St. Helens, Oregon, will be sold to one of the other insulating and wallboard concerns of the country is foreseen in the present status of the organization. It is understood on good authority that several of the other wallboard concerns have been dickering for the $2,000,000 Oregon plant.

Fir-Tex has been closed down since July 1, following a month's capacity run, during which the bulk of production was a wallboard that averaged 279.4 pounds per square inch tensile strength, as compared to the 175 pound strength of the board previously produced. The high tensile strength was secured by finer shredding of the fir, it was reported.

This production of a stronger board constituted no new departure in practice, Manager A. E. Millington said, but was like producing a heavier paper in a paper mill. A lath board also has been added to the line.

As soon as the stock thus built up is disposed of by C. E. Dant of Dant & Russell, who has charge of sales, the mill will be started up again for another capacity run, Millington said.

All officials of the concern are agreed that the one great need is more sales. There is, however, some question as to the action to be taken on the ruling of Judge Graham of the Patent Appeals court that the trade name "Fir-Tex" should be discontinued because of its resemblance to the older competitive trade name "Celotex".

Judge John S. Coke, attorney for "Fir-Tex" says that while he sees no justification for the ruling and that it has not the weight of a court order he is recommending discontinuance of the use of the name "Fir-Tex" in advertising and on the product, as required. He says he believes that if the same was continued and the matter carried into the courts that "Fir-Tex" would win. However, he sees no great loss in abandoning the name. The ruling of Judge Graham, he said, in no wise affects the firm name. Eventually, he says, a new trade name will probably be adopted.

Franklin T. Griffith, president of the company, speaking of the condition of the organization, said, "Fir-Tex is all right. There is nothing wrong with it. All that is needed is more sales."

B. C. Mill Furthering Log Barking Experiments

Handling of logs so as to retain the tops of trees and other parts that may be utilized in the new barker and chipping plant still constitutes a problem at the mills of the B. C. Pulp & Paper Company, which operates at Woodfibre and at Port Alice, Vancouver Island.

"The barker and chipper are working satisfactorily and it is now a logging problem rather than a manufacturing one to handle the logs as we originally intended," explained President L. W. Killam.

One of the ideas back of the installation of the Thorne barker, said to be the largest of its kind in the world, was that the mill would be able to utilize practically every part of the tree, including the top, thus eliminating a wastage of about 20% which in the majority of mills is practically inevitable. Some difficulty has been experienced, however, in getting the logs out of the woods and to the mill intact.

Mr. Killam reports B. C. Pulp & Paper mills operating full time, although prices are still depressed. He looks for the usual seasonal improvement in the market during the next two months.

Trade Looks Brighter In Denver

Altho business has been nothing to brag about in the Denver trade area all summer there are definite signs of an upturn in the very near future. The summer months have seen as many tourists, but they have had or displayed less money than heretofore and have remained for shorter periods of time.

Railroads running into Denver have carried more travelers than usual and the department stores seem to have received a good share of their business. The annual Market Week sponsored by manufacturers and jobbers drew a larger attendance than ever before.

Total purchases have not been tabulated at this writing, but it is safe to say that trade in the area benefitted to the extent of thousands of dollars. All major paper houses in Denver took an active part in Market Week preparations.

The "usual fall upturn" is expected during September. Colorado's major crop—sugar beets—is estimated to be a bumper one and this fact alone offers a basis for an optimistic outlook. The blowing in of the Ida Johnson well in northeastern Colorado and with other wells momentarily expected to gush forth presages a rosy future in the oil industry with other fields expected to benefit thereby. Mining, too, is on the increase.

A Comprehensive Volume On Forestry

Probably not within a quarter of a century has there been so much attention directed to the curriculum of the colleges training men for the professions. In medicine, in law, in engineering, emphasis is increasingly given to the relation of practice to the work of the class room and the laboratory. In much the same way the forest schools are being hard pressed to graduate men who are practically trained in the field work of the profession. The forests schools, at the same time anxious that their graduates shall meet the demands of business, are nevertheless influenced quite largely by the conviction that the training of the class room has made and will continue to make a major contribution to the advancement of the men in the profession. The lumber industry, to mention but one field of practice which has been opening wider its doors to the college trained forester, is anxiously waiting for the seer, be he practical or theoretical, who will chart for the industry a pathway out of the present depression.

Prof. Herman H. Chapman, Harriman Professor of Forest Management, Yale University, School of Forestry, has gone into the field of conflict with a new 544 page book on "Forest Management" (J. B. Lyon & Co., North Broadway, Albany, N. Y.—$4.50).

H. W. Boutwell, engineer of the Hawley Pulp & Paper Company, Oregon City, is building a new home in the Lake Oswego district, about half way between Oregon City and Portland. Mr. Boutwell will be able to keep in practice on his driving and putting as his new resident site, a 1½-acre tract, is near the 18th hole of the Lake Oswego Country Club. The house is to be of the Normandy style of architecture.

The Pacific Coast Pulp & Paper Company which proposes to build a small pulp and paper mill at Richvale, California, to utilize rice straw in its manufacture is still maintaining some activity in construction work, fillng and excavating. Richvale is located a few miles south of Chico, California, in the heart of a rice country.

S·A·F·E·T·Y

FIRST — LAST — ALWAYS

The best safety device known is a careful man

Pacific Coast Division
Pulp and Paper Section

NATIONAL SAFETY COUNCIL

ROBERT H. SCANLON
Regional Director
Powell River Co., Ltd.
Powell River, B. C.

"Ed" Brown To Direct SAFETY Work

E. R. Brown, who for the past 14 years has been SAFETY director of the Crown Willamette Paper Company, has been elected general manager of the Columbia Basin division of the National SAFETY Council. His territory covers all of Oregon and the area tributary to the Columbia River in Washington. He succeeds Hugh Herdman, vice president and general manager for the past 10 years, recently resigned. Mr. Brown took office August 15. His headquarters are on the twelfth floor of the Guardian Building, Third and Alder streets, Portland.

Brown's appointment is considered especially felicitious because of his long experience in SAFETY work and because being also president of the Oregon Industrial SAFETY Congress, to which office he was elected a few months previous, he will be able to coordinate the work of the two organizations.

He has already prepared a tentative outline for an Oregon SAFETY code for the pulp and paper industry, and a committee of pulp and paper men are soon to be appointed to work out the details.

Mr. Brown, a former newspaper man, joined the Crown Willamette organization right after the World War and for 13 years he edited the house organ, "Making Paper", which started just a month before he took charge of it and suspended this January. His duties as editor were in addition to his work as SAFETY director in which capacity he had charge of all SAFETY work of the firm in every department.

E. R. BROWN
General Manager
Columbia Basin Division
National SAFETY Council

Mr. Brown is planning to attend the twentieth annual SAFETY congress of the National SAFETY Council at Chicago, October 12 to 16.

Lewis H. Mills, president of Tidewater Timber Company, is president of the Columbia Basin division, National SAFETY Council.

STATEMENT OF ACCIDENT EXPERIENCE—JULY, 1931

(Mills in State of Washington)

COMPANY—	Hours Worked	Total Accidents	Frequency Rate	Days Lost	Severity Rate	Standing
Everett Pulp & Paper Co.	75,088	0	0	0	0	1
Puget Sound Pulp & Timber Co., Everett	56,186	0	0	0	0	2
Grays Harbor Pulp & Paper Co.	55,096	0	0	0	0	3
Fibreboard Products Inc., Port Angeles	45,829	0	0	0	0	4
Fibreboard Products Inc., Sumner	29,211	0	0	0	0	5
Shafer Box Co.	13,808	0	0	0	0	6
Puget Sound Pulp & Timber Co., Anacortes	22,160	0	0	39	1.760	7
Crown Willamette Paper Co.	270,563	2	7.39	250	.924	8
Longview Fibre Co.	89064	3	33.7	99	1.112	9
Rainier Pulp & Paper Co.	69,696	3	43.0	55	.789	10
Pacific Straw Paper & Board Co.	20,816	1	48.0	2	.096	11
Washington Pulp & Paper Co	58,275	5	85.8	33	.566	12
National Paper Products Co.	77,674	7	90.1	106	1.365	13
Inland Empire Paper Co.	63,311	6	94.8	73	1.156	14
Puget Sound Pulp & Timber Co., Bellingham	25,560	3	117.3	20	.783	15
Columbia River Paper Mills	47,379	7	147.7	63	1.330	16

The following mills not reporting—Pacific Coast Paper Mills: Cascade Paper Co., not in operation; Tumwater Paper Mills, not in operation. St. Regis Kraft Co., not in operation.

Fire at Columbia River Mill

No damage was done to the Columbia River Paper Mills at Vancouver, Washington, in the fire that broke out under the flooring of the sawmill unit the morning of August 1 and threatened for a time to wipe out the entire plant. Operations in the paper mill were not interrupted by the blaze, but it was necessary to switch to oil from hog fuel as the sawmill until was forced to close down while repairs were made to the flooring and to the wiring and electric motors. The sawmill was expected to be in production again early in September. There was some small damage done in the wood room, but no interruption to its production resulted.

Inland Mill Closes For Two Weeks

The Inland Empire Paper Company operating a 110-ton news print and catalog mill at Millwood, Washington, closed down for the last half of August for routine summer repairs. The crew was kept largely intact by being engaged on clean-up, repair and improvement work.

T-A-P-P-I

Pacific Coast Section

Chairman—C. W. MORDEN,
C. W. Morden Co., Portland, Oregon

Vice-Chairman—HARRY ANDREWS,
Powell River Co., Ltd., Powell River, B. C.

Secretary-Treasurer—MYRON W. BLACK,
Inland Empire Paper Co., Millwood, Wash.

October 23 ··· Friday

Pacific Section

of .... T·A·P·P·I holds its

Fall Meeting

at

POWELL RIVER, B. C.

Pacific Section of TAPPI Prepares For Fall Meeting

Under the direction of Convention Chairman Harry Andrews and assistants plans for the Fall meeting of the Pacific Section of TAPPI are now rapidly being concluded. The date has been set for Friday, October 23. The place is at Powell River, B. C.

The one-day session will be crowded with activity. As a matter of fact the assembly and meeting of old friends will begin on the evening before, as delegates will leave Vancouver on the C. P. R. boat on Thursday, midnight, arriving in Powell River at 7 a.m.

Following breakfast the morning session will be given over to the reading and discussion of technical papers. At this date it is known that the subjects and speakers will include a discussion of the recently completed British Columbia study, "Utilization of Sawmill Waste", by J. D. Jenkins of the Canadian Forest Products Laboratory and the University of British Columbia.

Dr. C. E. Curran of the U. S. Forest Products Laboratory is expected to speak on Forest Production in the United States.

A new method of neutralizing sulphite waste liquor by an ozonation process will be discussed by Dr. Harold Nightingale, Washington state sanitary engineer.

Dr. Jahn of the University of Idaho will discuss the properties of cellulose.

It is the aim of the convention committee to promulgate as much floor discussion as possible at the meeting and to assist this purpose the papers are to be multigraphed and distributed before the meeting.

In the afternoon the visitor will be treated to an inspection tour of the properties of the big 600-ton news print mill, including a trip to the recently completed hydro-electric development at Lois River.

The evening will be given over to the customary goodwill banquet. Robert Bell-Irving, mill manager and director, will preside. Lawrence Killam, president of the B. C. Pulp and Paper Co., Ltd., and Dr. Jahn of the University of Idaho, with Mr. Bell Irving, will be the principal speakers.

An Answer To Criticism

To the Editor of Pacific Pulp & Paper Industry:

The TAPPI member's letter published in the August issue prompts an answer after reading it and giving it some thought.

Your paper is open for items of this nature and I cannot see how anyone could criticise you for publishing same. However, some will. I think, however, the member should be severely criticised for hurting his affiliation by giving voice to his thoughts through the medium of the press, as the place for him first to state his dissatisfaction would be in a letter directed to the Executive Board through the mails, and if they did not take action then he should take it up with the members at their annual meeting.

If they did not give him consideration, then he should resign, and after doing that would be time enough to find fault with himself for that is what it amounts to in the last analysis.

The members make the laws for their own guidance. He may not have been present when the laws were made, but he has the right to suggest amendments and to play politics if he wants to to get his amendments through. I figure that I am just as much a part of TAPPI as any other member. True, I am only one in more than 1,000 and in that way not much of a voice, but I have suggested a number of things I did not like and they were changed. I probably had to make a lot of noise to get them changed, but I made the noise but it did not get into the press.

I do not know who the writer may be. His ideas may be good. In fact, I have thought over the exact matter he mentions and it does sound queer when it is put the way he puts it. However, if the owners of a mill want their technical men to belong to TAPPI, they are approving what he does when he gives and takes. Education from books is what most of us have; we need education from experience, but cannot get enough of that alone. We must have education by contact direct with the experience of others. We get that through such mediums as TAPPI. We get ten for one we give.

Fairplay.

Men Wanted—Interested in Paper Testing

To the Editor of PACIFIC PULP & PAPER INDUSTRY:

In a recent letter concerning my participation in the work of the Paper Testing Committee of the Technical Association, Mr. B. W. Scribner suggested that there might be some particular problem of local interest to the Pacific Coast Section and asked me to canvass members of this section, concerning the formation of an additional sub-committee to deal particularly with our local problems. Following this suggestion, I have attempted to obtain a list of Pacific Coast members of T.A.P.P.I. who have indicated an interest in paper testing but find that they have already been assigned to other committees.

Mr. R. G. Macdonald has suggested that I ask you to run an item in your magazine, calling for candidates in such a committee, since such a volunteer committee would be much more alive than one which was hand-picked.

I would appreciate your cooperation in this matter and, if it does not inconvenience you, would like to have an item appear in an early issue of the PACIFIC PULP & PAPER INDUSTRY asking any T.A.P.P.I. members who are interested in the formation of an additional subcommittee working on the paper testing problems of the Pacific Coast Section, to communicate with me, giving any suggestions they might have concerning the problems which should be considered.

Thanking you for your cooperation I am

Yours very truly

GEO. R. K. MOORHEAD,

2470 Trade St., Salem, Ore. Oregon Pulp & Paper Co.

National Paper Products Exhibits to Building Owners

The National Paper Products Company, division of Crown Zellerbach Corporation had on display in Seattle at the recent national convention of Building Owners and Managers the various products which they manufacture such as: Public Service paper towels and cabinets, several new folded toilet tissues under the brand names of Twin Fold, Alpine and Duo Fold, as well as the old brand known as No Waste toilet tissue and cabinets.

These brands are being used by hundreds of hotels, office buildings, hospitals, factories, schools and other public and semi-public buildings throughout the United States.

The exhibit of these products at the convention was supervised by Lee L. Larimer, assistant advertising director of the Crown Zellerbach Corporation. Mr. Larimer visited the various paper mills owned and operated by the corporation in the Pacific Northwest while visiting in that part of the country.

Further Sulphite Curtailment?

The sulphite pulp manufacturers of Northern Europe have effected a further curtailment of production. The 15% curtailment first agreed upon last year was found to be inadequate to adjust the market and further curtailment—making a present total of 30%—was agreed upon and put into effect July 1 to continue in force until July 1, 1932.

It is reliably reported from Europe that should the 30% curtailment still fail of the desired end of adjusting production to consumption, the European mills are ready to cut still further. The manufacturers are apparently resolved not to let production depress the present disastrously low prices any further.

Pacific Waxed Paper Moves To Seattle

The Pacific Waxed Paper Company of Tacoma will move its entire manufacturing plant to Seattle on October 1 to occupy a new building containing 25,000 square feet of floor space at Sixth Avenue South and Atlantic Street.

In addition to its Seattle manufacturing payroll the company will maintain sales offices at Los Angeles, San Francisco, and Honolulu. Salesmen covering the Washington, Oregon and Idaho territory will work out of the Seattle office.

Oregon City News Briefs

A relief committee has been formed at Oregon City in line with President Hoover's request to care for paper mill employes and others thrown out of employment. John Reams, employment manager at Crown Willamette's West Linn mill, is a member of the body.

After one of the longest grinding seasons on record the water driven grinders in the Oregon City region shut down early in August.

Farmers are finding a steady outlet for pulpwood on their farms by bringing it in by truck to the Hawley Pulp and Paper Company's plant at Oregon City.

Salem Mill Adds Lime Tanks

The contract for the design and construction of concrete lime slacking and sludge tanks at Salem, Ore., has been awarded The Austin Company, engineers and builders of Cleveland, by the Oregon Pulp & Paper Company. The project represents an investment of $35,000 and will be under the supervision of the Portland office of The Austin Company. F. W. Leadbetter is president of the Oregon Pulp & Paper Company.

Pell Finds This Idea Profitable

The so-called depression has no effect on R. C. Pell, Jr., president of the Pelican Paper Company, 100 Vallejo Street, San Francisco. Mr. Pell has noted the numerous reports on the reduction of wages, particularly that of the United States Steel Corporation, which cut the wages of all its employes decidedly.

Last May Mr. Pell increased the salaries of all his

R. C. PELL

employes 2%. From the reaction of both employes and outsiders, it is evident that Mr. Pell's action touched a responsive cord.

Mr. Pell explains the effect of his action as follows:

"As you know, firm after firm had reduced salaries of their employes, and naturally my own employes wondered what was going to happen to them. The effect of my letter advising them of the 2% increase was almost startling in its effect. There was a change of atmosphere, more hustle and bustle, and an immediate increase in daily orders, both in size and number. And, while a new broom sweeps clean, to date there is the same enthusiasm as there was at the beginning.

"Also, the number of congratulatory letters which I received surprised me, as did the number of firms (new accounts) that telephoned orders to us, stating that they thoroly approved of the policy, and wanted to see a firm with our ideas succeed.

"As you know, the best results obtainable are those from loyal employes who are on their toes every minute of the working day. The 2% raise did this, and more. And, in conclusion, I might say that the additional cost of the increase in salaries has many times been made up by the increase in sales."

A New Fibre Container For Fish

W. D. Haller, sales manager of the tube and can department of Fibreboard Products, Inc., San Francisco, reports that his firm is working on a new flat fibre container for frozen abalone and filleted fish.

New Types
New Models
New Machines

EQUIPMENT

Manufacturers of, and dealers in, equipment used by pulp and paper mills, board manufacturers, converting plants, paper merchants, or any other branch of the industry may make their announcements in this department.

New Dealers
New Branches
Appointments

New Data on Rubber Rolls

Everyone interested in rubber rolls, whether from the operating, maintenance or purchasing angle, will find much new and valuable information in a booklet just issued by the American Wringer Company, Woonsocket, R. I.

This booklet, entitled "Tensilastic and What It Means," tells in detail of recent developments in rubber compounding and fabrication particularly pertinent to its use in high speed, high pressure paper machine rolls. While technical in subject matter, the booklet makes quick, easy reading and gives the layman much important information on the things to look for in the purchase of rubber rolls.

The care and preservation of rubber rolls are comprehensively covered in two other publications of the American Wringer Company, "Density and Care of Press Rolls" and "The Use and Abuse of Rubber Covered Rolls." Any or all of these booklets will be sent without charge or obligation to any one requesting them from the American Wringer Company, Inc., Woonsocket, R. I., or Farnham, Quebec, Canada.

Walter S. Hodges, 311 Lewis Building, Portland, represents the American Wringer Company in Pacific Coast territory.

Great Western Electro-Chemical Co. Adds To Staff

Ralph A. Stevenson, for the past four years superintendent of the Sacramento Filtration Plant, has joined the research and engineer staff of Great Western Electro-Chemical Company, of San Francisco and Pittsburg, California, as the company's expert consultant on water purification, sewage disposal, and municipal sanitation.

Mr. Stevenson is a past president and member of the Sacramento Chapter of the American Chemical Society, a past director and member of the Sacramento Chapter of the American Association of Engineers, a member of the American Water Works Association and the California Sewage Works Association.

Kenneth Hall To Represent Stowe & Woodward

Kenneth B. Hall has been appointed Pacific Coast representative for the Stowe & Woodward Company of Newton Upper Falls, Massachusetts, makers of rubber covered rolls. Mr. Hall makes his headquarters in Portland at 355 Everett Street.

Rod Mill Data

A booklet containing useful data and illustrations of rod mill installations in different industries is offered to interested executives by the Mine & Smelter Supply Company's Paper Mill Division, with offices in Denver, Colorado. The company has a number of Marcy Rod Mill installations in Pacific Coast mills.

Farrel-Birmingham Opens Chicago Office

The Farrel-Birmingham Company, Inc., of Ansonia, Connecticut, has opened a new office in Chicago, 1059 First National Bank Building, Monroe and Clark Streets.

Better Paper Napkins—Greater Art in Production

The John Waldron Corporation of New Brunswick, N. J., who for over a century have been exclusive builders of converting machinery have developed an advanced line of folding, embossing and printing machines for the production of decorative paper napkins or serviettees. These new "Centennial" model machines produce decorative effects in either printing, embossing or a combination of both; provide a clean, shear-cut accurately registered to the pattern and quarter fold the napkin, all operations performed in sequence. The machines count the unit quantities of finished goods, and 500 napkins or serviettes are produced each minute without undue strain or vibration.

The John Waldron Corporation has prepared an interesting and attractive catalog which completely describes and fully illustrates these new and popular models. Interested executives may secure a copy by writing to the Waldron Pacific Coast office, 311 Lewis Building, Portland, Oregon.

Deister Offers New Feeder

The Deister Concentrator Company of Fort Wayne, Indiana, announces its new Concenco Disc Feeder in both worm and bevel gear drive, which has been added to the line of Concenco Products. The Concenco Disc Feeder is a simplified machine for metering crushed and ground materials. It is sturdily built and designed to give continuous operation at the lowest cost possible.

Educating Shippers To Use Fibre

H. L. Stillwell, San Francisco, managing director of the Export Fibre Case Association, is due home around the first of October from a six months' visit to Europe, where he has been conducting educational and promotional campaigns to increase the use of fibre cases for goods shipped abroad.

Mr. Stillwell's task has been to convince foreign buyers that the fibre case stands up under export shipping conditions and lands its contents at its destination in perfect condition. It is reported Mr. Stillwell has been successful in this work abroad and that an increase will be seen it is expected in the number of fibre cases going export as a result of the campaign.

The association has opened an office in London.

When, a year or more ago, the Powell River Company Ltd. purchased a dismantled obsolete United States cruiser to sink in the construction of a breakwater to protect the log booming grounds of its 600-ton newsprint mill up on the British Columbia Coast, there was talk of international complications.

Now the chance for such talk is again revived, on an even more serious plane, because it begins to look as though the Powell River Company intended to build up a navy. The company has just purchased a second old cruiser, the former proud U. S. S. Huron, which will write finis in an otherwise bright career when it is filled with rocks and sunk before Powell River's mill to extend the breakwater. Such is life.

Westminster Mill At Good Capacity

Although the recently concluded trade agreement between Canada and Australia did not provide for any tariff preference on the products of Westminster Paper Company of New Westminster, B. C., the company has received an important indirect advantage through the agency of this measure.

It so happens that Westminster Paper Co. manufactures the wraps for Australian oranges, and oranges are given substantial preference in the treaty, with the result that the market for Australian oranges in Canada has been greatly extended. In consequence Australian growers have found it worth while to increase their purchases of fruit wraps and Westminster Paper Company has been getting its full share of this new business.

The chief competition encountered in the Australian market, according to President J. J. Herb, is from the United States and Sweden, whose paper products enter the commonwealth market on practically the same basis as Canadian. Sales, however, have been well maintained in spite of the present dullness in Australian business and the unfavorable exchange rates.

Westminster Paper Company's new three-color press is working satisfactorily, according to Mr. Herb, and at present most of its output is in fruit and bread wraps. Every year, according to company officials, witnesses a greater percentage of British Columbia's bread and fruit output being paper wrapped.

One of the new lines being brought out by the company is paper linen roller towels for the domestic market.

Although the offshore export trade has always been a big feature of Westminster's business, it has been able to depend a good deal on the Canadian prairies, but this year owing to a decline in the purchasing power of the wheat farmers sales in that territory have been low. The home market, however, has been good and the mill has been operating 100% of capacity, employing 100 men.

Making Paper at Ocean Falls

Pacific Mills, Ltd., British Columbia subsidiary of Crown Zellerbach Corporation, is continuing to operate at Ocean Falls on a five-day week basis, and company officials say it is unlikely that any change in this production schedule will be made during the present year.

"We are certainly kept busy during the five days in the week that we are operating," said one of the Pacific Mills executives. "However, we find that economic conditions do not warrant an additional day per week to our running time. Generally speaking, we regard ourselves in a fortunate position and, while the market is quiet, the wide range of our output has had the effect of stabilizing our sales."

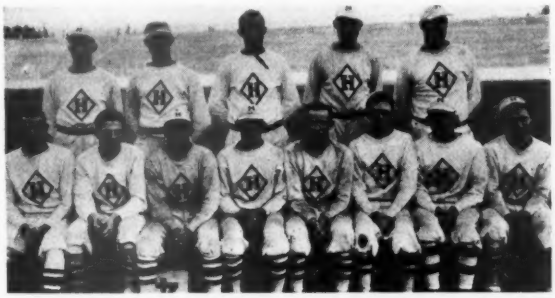
The water supply all through the summer has been excellent at Ocean Falls and, due to the measures taken in 1930, there is not likely to be any repetition of the drought experienced in the 1929 spring, when several of the machines were shut down for months owing to lack of water.

Extended labor troubles in Norway have kept large quantities of news print out of the market, thereby improving the situation for other producers. Increasing Canadian competition is being reported in markets previously served by European newsprint mills. Swedish newsprint mills are well supplied with orders for the current year and are reported to be looking confidently into the future.

Hawley Paper Makers Cop Baseball Title

The Hawley Paper Makers, representing the Hawley Pulp & Paper Company, won the championship of the Oregon City Twilight Baseball League on August 25. The race was so tight between the leaders of the eight-team league that the Paper Makers were forced to play off their strongest opponents to decide the championship.

The victory and the close of the season were celebrated by a banquet August 27 at the Crown-Willamette Inn across the river in West Linn. It was attended by all teams and the officials of the league. H. C. Malcolm, superintendent of the Hawley sulphite mill, was manager of the team this year as he was also last year when it won second place. Mark Sullivan was captain. Most of the players were mill employes.



Here are the Hawley "Papermakers" which H. C. Malcolm coached to the championship of the Oregon City Twilight League

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Rainier Mill Uses New Pulp Cutter

The Rainier Pulp & Paper Company at Shelton, Washington, has completed moving its finishing and baling operations away from the end of its Black-Clawson vertical dryer into a portion of its pulp warehouse. The former practice was to cut the pulp into sheets ready for baling as it came from the machine. This procedure was not entirely satisfactory because baling operations were not in step with the machine production.

To remove this bottle neck in the production it was decided to move the sheet cutting and baling operations away from the end of the drying machine entirely. The move has been facilitated with transfer of the mill's output from paper grades of pulp to rayon grade pulp. For this high grade chemical use the pulp sheet is made thinner.

The thinner sheet enabled making up the pulp as it came from the dryer into jumbo rolls. These rolls are transferred by electric trucks to the new "finishing" room. Here several jumbo rolls are cut at once on cutter and layboy. Operations are mostly automatic and the work is accomplished with greater dispatch than under the old method.

The jumbo rolls of pulp are cut into sheets and made into bundles of the desired weight. Hydraulic presses reduce the bulk of the loose bales before wrapping and tying with wire ready for shipment. The new system is working out very well, it is reported by D. B. Davies, mill manager.

George Thorssen, formerly superintendent of the Spaulding Pulp & Paper Company mill at Newberg, Oregon, is now serving as superintendent of the Sitka Spruce Pulp & Paper Company mill at Empire, Oregon.

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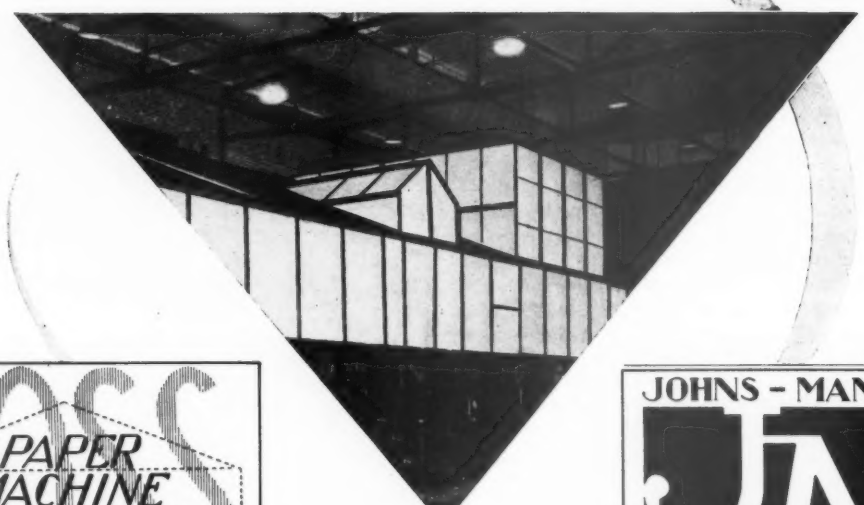

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ROSS SYSTEMS

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When writing to J. O. ROSS ENGR. CORP. *please mention* PACIFIC PULP & PAPER INDUSTRY

New Kexholm Mill—Russian Wood

Aside from the fact that new Kexholm mill in Finland adds a 90,000-ton bleached sulphite capacity to the world's suffering markets, there are other angles of interest about this new plant which went into production in July.

The project was financed by the well-known German concern, O. Y. Waldhof A. B. This is not the first transfer of German capital outside its borders to establish supplies of wood pulp that can not be had from the insufficient domestic forests. Altho ostensibly the Kexholm pulp is to move into Germany the fact can not be discounted that the mill is set up for world trade.

Of particular interest is the location of the mill near the town of Kexholm, on the shores of Lake Ladoga, one of the world's largest fresh water lakes, a lake which forms the dividing line between Finland and Soviet Russia. More significant is the fact that the lake is tributary to the vast northern pulpwood forests of the Soviet which in the past two years have been so much in the public print.

It is obvious that the set-up at Kexholm permits easy access to Russian pulpwood, and it is reported that the new mill will rely largely upon Russian wood for its raw materials.

With the Kexholm mill serving essentially as a milling-in-transit unit it will be interesting to watch, with the participation of Kexholm pulp in the United States market, whether the provisions of the new tariff act of 1930 will be dusted off and put to use.

Paragraph 307 of that Act specifically provides that on importation of forest products no goods shall be permitted to enter the United States where the raw material used in the manufacture of such goods or products, has been produced wholly or in part or transported wholly or in part, by enforced or subsidized labor.

This paragraph further provides that no raw material of any kind, where enforced or subsidized labor has been used in the production or transportation thereof can be admitted. It is permissible to wonder if effective enforcement of this paragraph of the new tariff law will take place, whether goods such as woodpulp manufactured in the Northern European countries from wood produced in the prohibited areas of Northern Russia, will be stopped, and whether affidavits are being requested and carefully checked from the purchasers of these products from the Scandinavian countries and Germany, who are using Russian pulpwood.

Effective enforcement, or at least interpretation of the provisions of this new tariff act, is of vital importance to the domestic pulp and paper industry.

Canada Power & Paper Reorganized

Canada Power & Paper Corporation has passed out of the picture and in its place has arisen a new company in the Canadian newsprint field—Consolidated Paper Corporation. This is the name decided upon by the security holders protective committee following deposit of a majority of all securities and the declaring in effect of a plan of reorganization for Canada Power & Paper.

Since the reorganization plan was announced the committee has been receiving the deposit of securities from holders in Canada, the United States, England and elsewhere. When the committee obtained a majority of all issues it announced that the scheme would go into effect at once. Appointment of La Monte J. Belnap as president has been confirmed. The number of directors of the new company has been increased from eleven to fifteen.

Headed by Mr. Belnap, the board will include such men as F. G. Daniels of Dominion Textiles Co., Ltd.; Norman J. Dawes of National Breweries; C. A. Dunning, former minister of finance for Canada; H. D. Lockhart Gordon, Toronto; Ross H. McMaster of Steel Co. of Canada; E. A. McNutt of Sun Life Insurance Co.; John J. Rudolph; Charles F. Sise of Bell Telephone Co. of Canada.

The primary purpose of the reorganization plan was to relieve Canada Power & Paper of heavy fixed charges—charges so great that the company was not able to earn sufficient money to meet them. The new capital set-up makes possible the elimination of all fixed charges for a period of five years, during which period it is expected that the company will be able to build up an adequate working capital and place its finances in a sound position, by which time contracts now in hand or in sight will permit the new company to establish an adequate earning power on the basis of the new capitalization.

Stabilization of the Canada Power & Paper Company, one of the largest producers in the newsprint industry, is expected to have a far-reaching effect of benefit to the eastern Canadian newsprint situation, and indirectly to the coast.

Salem Mill Running Well

A report from Salem which has the aspect of a record is that the Oregon Pulp & Paper Company, operating a 110-ton bleached sulphite specialty paper mill has provided steady employment thruout the "repression" for more than 400 employes. The mill has continued to operate three eight hour shifts on a six-day week.

As for currency with orders, Resident Manager Carl Heinlein points out that whereas a year ago the mill was a full month behind orders, at present the margin has virtually been eliminated. Unless some turn in a weak paper market shows up the mill will be more or less pressed to maintain the full scale of production it has kept up in the past two years.

It is reported that 1931 contracts call for delivery of some 40,000 cords of whie fir pulpwood.

All mills in the Portland district are reported to be operating on about the same schedule as last month, with about the same amount of business on hand.

Western mills making fruit wrap are all operating practically full time on their fruit wrap machines, despite the fact that there is still a considerable quantity of this grade being shipped in from the east and middle west. One Wisconsin mill has orders to run one fruit wrap machine full time until November.

Next year with new fruit wrap machines in production in the West a more competitive distribution of business is anticipated.

A small fire that started at one of the drying machines at the Spaulding Pulp & Paper Company mill at Newberg, Oregon, one August day was quickly put out and the damage did not run over $500. Operations were interrupted only for about an hour. The plant ran at full capacity during the month, producing about 1500 tons of pulp.

The final unit of automatic sprinklers has been installed at this mill and it is now fully equipped, awaiting only to be hooked up to the new water tank now under construction.

This installation is equipped with Dodge-Timken Bearings.

CHAMPION

increases super-calender production 37½%, cuts power cost in half and effects proportionate economies in production costs by modernizing calender stacks with Timken Bearings. Write Timken for complete information, or get in touch direct with the builder of your machines.

Every mill wants to increase calender speed, for that means more finished paper per hour ... lower cost per pound. You can do it—just as The Champion Coated Paper Company has done—by taking friction's drag out of the calender rolls with Timken Bearings.

In order to obtain the desired additional speed with plain bearing super-calender stacks, Champion would have had to install new motors of considerably higher capacity. As it is, they are operating with the original motor and drive equipment and are still saving power.

Many other benefits are indicated by the use of Timken-equipped calender rolls. These include:

1. *Better calendering* due to (a) running with extra nip (b) permanently accurate roll alignment (no eccentric adjustment necessary) (c) minimum heat rise in rolls.

2. *Quicker re-threading of paper after a break.* Timken Bearings so reduce starting torque that the stack can be started with weights down.

3. *Easier starting.* With frictional resistance in the journals eliminated, less power is required to start the stack, sudden jerks are avoided and journal breakage prevented.

4. *Lubrication economy.* Timken Bearing housings can be completely sealed against oil leakage, thus preventing waste. No water-cooling of bearings necessary.

5. *No paper loss through oil leakage.* As there is no oil leakage with Timken-equipped rolls, the edges of the rolls do not become damaged. The full width of the roll is thus usable, still further increasing production.

6. *Lower maintenance cost.* No overloading of motors —no burned-out armatures. Less re-grinding of rolls required because of permanent alignment feature. Broken journals practically eliminated through smooth starting.

It is estimated that the investment required to change plain bearing calender stacks over to Timken Bearings will be returned to mill owners in 2 to 3 years.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

When writing THE TIMKEN ROLLER BEARING CO., *please mention* PACIFIC PULP AND PAPER INDUSTRY.

News Print Production—July, 1931

The News Print Service Bureau Bulletin No. 163 states that production of news print paper in Canada during July, 1931, amounted to 182,731 tons and shipments to 175,350 tons. Production in the United States was 99,548 tons and shipments 97,225 tons, making a total United States and Canadian news print production of 282,279 tons and shipments of 272,575 tons. During July, 25,631 tons of news print were made in Newfoundland and 1,257 tons in Mexico, so that the total North American production for the month amounted to 309,167 tons.

The Canadian mills produced 183,788 tons less in the first seven months of 1931 than in the first seven months of 1930, which was a decrease of 12 per cent. The output in the United States was 94,188 tons or 12 per cent less than for the first seven months of 1930. Production in Newfoundland was 4,987 tons or 3 per cent more in the first seven months of 1931 than in 1930 and in Mexico 166 tons more making a continental decrease of 272,823 tons or 11 per cent.

During July the Canadian mills operated at 56.8 per cent of rated capacity. United States mills at 66.7 per cent, Newfoundland mills at 101.2 per cent and Mexican mills at 68.1 per cent, making a continental average of 62.1 per cent. Stocks of news print paper at Canadian mills totalled 47,288 tons at the end of July and at United States mills 33,616 tons, making a combined total of 80,904 tons which was equivalent to 4.5 days' average production.

NORTH AMERICAN PRODUCTION

	Canada	United States	Newfoundland	Mexico	Total
1931—July	182,731	99,548	25,631	1,257	309,167
Seven Months	1,319,627	694,751	170,565	8,971	2,193,914
1930—Seven Months	1,503,415	738,939	165,578	8,805	2,466,737
1929—Seven Months	1,540,343	809,301	144,894	11,182	2,505,720
1928—Seven Months	1,345,687	828,661	130,952	9,080	2,314,380
1927—Seven Months	1,160,118	893,972	115,548	8,332	2,177,970
1926—Seven Months	1,056,790	984,623	101,404	7,125	2,149,942
1925—Seven Months	869,386	884,503	41,088	7,434	1,802,411
1924—Seven Months	793,276	874,448	38,118	6,706	1,712,548

The Paper and Pulp Industry in June, 1931

According to identical mill reports to the Statistical Department of the American Paper and Pulp Association from members and co-operating organizations, the Daily Average of total paper production in June decreased 1% under May and was 9% under June, 1930. The Daily Average wood pulp production in June was 5% below May 1931, and 14% under June, 1930.

Compared with June a year ago, the Daily Average production registered a decrease in the following grades: Newsprint, uncoated book, bag, paperboard, writing, and building papers. Compared with May, 1931, the following percentage decrease were registered in the Daily Average production: Uncoated book, 1.0%; paperboard, 1.9%; wrapping, 0.9%; bag, 1.3%, and writing, 4.5%.

The six months' cumulative total of production of paper was 11.3% below the corresponding period of 1930 while shipments were 10.5% smaller than a year ago. All the major grades of paper have shown improvement at the end of the six-month period as compared with the end of the five-month period.

The six months' cumulative total of wood pulp production for this year was reported as 18.7% below the level of the same period in 1930.

Total shipments of wood pulp to the outside market were 29% below the level of the six months' total of 1930. Bleached sulphite, mitscherlich and kraft pulp shipments to the open market were greater than in the first six months of 1930.

Total wood pulp inventories showed a continued decrease and at the end of June, were 27% below the level of June, 1930. All grades, except mitscherlich pulp, showed inventories below the level of June, 1930.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF JUNE, 1931

GRADE—	Production Tons	Shipments Tons	Stocks on Hand End of Month—Tons
Newsprint	101,086	100,087	33,906
Book, Uncoated	76,136	75,714	48,297
Paperboard	155,843	154,930	62,760
Wrapping	44,289	43,551	43,308
Bag	12,115	11,858	6,250
Writing, etc.	23,491	22,717	50,180
Tissue	6,028	6,009	4,463
Hanging	3,935	3,783	4,353
Building	5,920	5,506	3,037
Other Grades	15,785	16,139	13,919
Total All Grades June, 1931	**444,628**	**440,294**	**270,473**
Total, All Grades, 6 Mos. 1931	**2,668,813**	**2,663,764**	**270,473**
Total, All Grades, 6 Mos. 1930	**3,009,591**	**2,976,645**	**270,066**

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF JUNE, 1931

GRADE	Production Tons	Used During Month—Tons	Shipped During Month—Tons	Stocks on Hand End of Month—Tons
Groundwood	80,034	76,844	1,277	75,040
Sulphite News Grade	28,330	27,609	597	5,036
Sulphite Bleached	19,524	16,858	2,182	2,993
Sulphite Easy Bleaching	2,675	2,427	48	896
Sulphite Mitscherlich	3,070	2,025	622	1,855
Kraft Pulp	28,274	24,734	4,768	5,970
Soda Pulp	16,169	13,018	2,993	3,002
Pulp—Other Grades	387	321	68	101
Total, All Grades, June, 1931	**178,663**	**163,836**	**12,555**	**94,893**
Total, All Grades, 6 Mos. 1931	**1,060,978**	**946,097**	**90,513**	**94,893**
Total, All Grades, 6 Mos. 1930	**1,305,745**	**1,112,930**	**127,655**	**130,008**

Paper Production and Sales in Japan—June, 1931

	Production (in Lbs.)	Sales (in Lbs.)
High Grade Printing Paper	12,702,832	11,901,836
Printing Paper	10,349,435	11,479,139
Writing and Drawing Paper	2,612,917	2,352,842
Japan Simili Paper	10,382,166	8,657,506
Art and Flint Paper	1,098,830	917,732
News Printing Paper	43,208,964	39,314,836
Sulphite Paper	4,653,752	4,909,070
Colored Paper	1,586,438	1,405,577
Packing Paper	10,833,550	11,726,438
Japanese (mach. made) Paper	1,573,650	717,489
Card Board (excluding straw) Paper	6,161,400	7,232,040
Miscellaneous Paper	5,283,213	4,806,092
Total	110,447,147	105,420,597

Japan's Pulp Imports—June, 1931

Japan imported chemical wood pulp during June, 1931, from the following countries in the amounts shown (in pounds):

Norway, 497,600; Sweden, 2,448,000; Germany, 239,333; U. S. A., 4,405,600; Canada, 8,521,200; France, 120,133; Austria, 67,733; Europe, 1,310,534. Total, 17,610,133.

Emigh Now With Camas Mill

Elmer Emigh, superintendent of the St. Helens Pulp & Paper Company, St. Helens, Oregon, since the mill started operations in 1926 has resigned and entered the employe of the Crown-Willamette Paper Company at the Camas, Washington, mill.

The Pacific Northwest Advisory Board of the American Railway Association car service division was scheduled to meet September 11 at the Davenport Hotel, Spokane, Washington, to report on prospective car loadings for the last quarter of 1931.

Paper and pulp loadings for July, August and September were forecast at the last meeting in Seattle to total 2472 cars, as against actual loadings of 2232 cars for the same period in 1930. This was a prospective increase of 10.8% as against a decrease of more than 11% for the total of all commodity car loadings in the Pacific Northwest. Pulp and paper prognostications for the final quarter will be watched with interest by the industry.

Ross Furnaces Recover Huge Chemical Tonnage

Most outstanding developments made in recent years in the pulp and paper industry have been due to the application of science as embodied in engineering and chemistry.

Undoubtedly one of the most vital developments in the pulp and paper industry is the "Wagner" Furnace, making available to the pulp mill a method of recovering chemicals and heat from the sulphate or kraft and the soda process, and opening a way to eliminate stream pollution, with recovery of heat values in the sulphate process. Wagner furnaces are now recovering chemicals used in the manufacture of 480,000 tons of soda and kraft pulp annually.

This furnace is a vertical, stationary steel structure, with a soapstone or other refractory lining, having a roof formed of boiler tubes and connected to a water-tube boiler, with induced draft fan and scrubber, or other device for removing the small amount of chemical carried out by the gases.

The unit is almost identical in design for soda and sulphate, displaces in the soda process the rotary and fire pot, the ash coveying system and bleachers; and in the sulphate process, the disc evaporators, rotaries and smelters. Its function is to burn the volatiles and fixed carbons securing absolute combustion, returning the chemicals for reuse in the most available form; doing, in an efficient manner and without extra fuel, what has previously been done by the rotary systems, and eliminating wastes, labor, dirt, smoke and odors.

Advantages offered by the Wagner Furnace have led to many installations in rapid succession. In some sections of the country, it has been found that the Ross-Wagner Furnaces have completely paid for themselves in one year's operation and in any section of the country the installation of this improved recovery system is completely justified, the manufacturers state.

Ross engineers offer the following method of computing the value of steam which would be generated from waste heat by the "Ross-Wagner" System in your mill; multiply your present steam cost per 1,000 lbs. by ten; and the result will be steam value per ton of Pulp.

Mr. E. G. Drew, Pacific Coast resident engineer of the J. O. Ross Engineering Corporation with offices at 311 Lewis building, Portland, Oregon, will gladly send interested executives a copy of the new and attractive Wagner Catalog which fully describes and illustrates this modern recovery system.

Ray Smythe, who recently resigned as manager of the Willamette Iron & Steel Works to establish his own machinery brokerage business in Portland, has returned from a visit to Chicago, where he reports business conditions as extremely quiet.

McMillen Has New Coast Contact

C. R. McMillen, formerly president of the Union Bag & Paper Company, Tacoma, Washington, which he sold to the St. Regis Pulp & Paper Company, has the mill back in his charge again. He is now executive vice president of the St. Regis Paper Company and the Tacoma mill is a part of his responsibility. Mr. McMillen's offices are in the Lincoln Building, 60 East 42nd Street, New York.

A. B. Martin, executive vice president of the Crown Willamette Company and president of Pacific Mills Co., Ltd., Ocean Falls, B. C., completed a trip during August through the Northwest properties of his organization and returned to San Francisco. He visited the various mills during his trip.

C. E. Bruner at Seaside

C. E. Bruner, mill manager of Crown Willamette Paper Co.'s West Linn mill, who was confined to his home early in August, had recovered to be able to spend a few weeks at "The Tides", Seaside, late in the month.

William B. Maxwell, pioneer secretary-treasurer of Blake, Moffitt & Towne, San Francisco, paper jobbers, left late in August aboard the steamer "Guatamela" for a trip to New York via the Panama Canal. Mr. Maxwell will be gone two months and his trip is to have nothing to do with business. His sister accompanied him.

Mr. Maxwell has been with Blake, Moffitt & Towne 46 years, starting to work as a boy when both he and the pioneer firm were younger. On the eve of his departure from San Francisco he was the guest of honor at a dinner tendered by a few of his associates at the Olympic Club, San Francisco, and was presented with a traveling bag. J. K. Moffitt, president of the firm, presided at the dinner.

German Pulp Production Larger—Paper Smaller

German mechanical pulp production during the first six months of the current year increased to 434,000 tons as compared with 423,000 tons for the corresponding period of last year. Paper and board output declined, according to a report received in the Commerce Department.

Pulp consumption registered a decline, totaling 433,845 tons, as against 465,284 tons last year. Stocks on hand at the end of June totalled 234,020 tons. Production of chemical pulp was 551,623 tons, against 657,646 in 1930, and consumption was 454,802 tons against 489,869, last year. Stocks on hand at the end of June being 139,761 tons. Production of the miscellany of paper grades was 1,031,359 tons, against 1,115,335 tons in 1930, while board production was 195,067 tons, as compared with 228,643 in the same period last year.

Cornstalk Pulp—Finis

The final echo of a wordy and futile effort of vote-seeking politicians to create political capital out of a farm relief situation was written on August 12th when the Corn Stalk Products Co., Inc., plant at Danville, Ill., came up for sale at public auction. Cornstalk pulp and paper made from the pulp, altho feasible on a laboratory basis, failed in commercial competition with wood pulp and for the time being has been written into history along with the South Sea bubble, the Cardiff giant, and other fanflares of days gone by.

Canadian Exports of Pulp and Paper July, 1931

Canadian exports of pulp and paper in July were valued at $10,938,148 according to the report issued by the Canadian Pulp and Paper Association. This was a decrease of $1,697,342 from the previous month.

Wood-pulp exports for the month were valued at $2,475,628 and exports of paper at $8,462,520 as compared with $2,241,548 and $10,393,942 respectively in the month of June.

Details for the various grades of pulp and paper are as follows:

	July, 1931		July, 1930	
PULP—	Tons	Dollars	Tons	Dollars
Mechanical	9,827	274,622	13,898	374,311
Sulphite Bleached	24,004	1,506,419	18,470	1,318,097
Sulphite Unbleached	10,022	436,935	17,351	852,073
Screenings	921	15,358	2,281	41,427
Sulphate	3,199	222,400	5,712	345,689
All Other	403	19,894	756	56,670
	48,376	2,475,628	58,468	2,988,267
PAPER—				
Newsprint	157,205	8,223,891	199,060	11,579,862
Wrapping	540	50,775	923	96,791
Book (cwts.)	2,988	23,541	3,265	29,243
Writing (cwts.)	.....	.....	.....	.....
All Other	.....	164,313	.....	214,123
	.....	8,462,520	.....	11,920,019

For the first seven months of the year the exports of pulp and paper were valued at $84,361,977. In the corresponding months of 1930 the value was $106,416,853, so that there has been a decrease this year of $22,054,876.

Details of the various grades are given below:

	7 Mos. 1931		7 Mos. 1930	
PULP—	Tons	Dollars	Tons	Dollars
Mechanical	81,381	2,362,041	105,382	3,055,506
Sulphite Bleached	143,719	9,252,235	134,466	11,412,960
Sulphite Unbleached	78,178	3,399,263	122,963	6,119,978
Sulphate	57,585	2,215,646	56,444	3,281,991
All Other	11,207	281,877	17,298	441,542
	372,070	17,511,062	456,553	24,311,977
PAPER—				
Newsprint	1,182,879	64,558,113	1,366,664	78,887,825
Wrapping	6,108	565,566	8,422	884,116
Book (cwts.)	15,926	134,280	24,329	228,004
Writing (cwts.)	1,300	12,003	1,992	17,080
All Other	.....	1,580,953	.....	2,087,851
	.....	66,850,915	.....	82,104,876

Pulpwood exports for the first seven months of this year were 513,242 cords valued at $4,877,786 as compared with 794,821 cords valued at $7,958,087 in the corresponding months of last year.

Thomas Parks, mechanical engineer at the Hawley Pulp & Paper Company mill at Oregon City, has returned from a two weeks vacation at the seashore. Homer Malcolm, sulphite superintendent, is back from a vacation spent at Boise, Idaho.

IMPORTS OF PULP WOOD AND WOOD PULP INTO THE UNITED STATES BY COUNTRIES AND CUSTOMS DISTRICTS

June, 1931

Compiled by the U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce
(Figures Subject to Revision.)

PULP WOOD

	Rough				Peeled				Rossed			
	Spruce		Other		Spruce		Other		Spruce		Other	
	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars
COUNTRIES—												
Canada	16,854	189,044	1,257	12,438	51,412	610,986	13,344	114,739	2,997	39,530	.....	.....
Total	**16,854**	**189,044**	**1,257**	**12,438**	**51,412**	**610,986**	**13,344**	**114,739**	**2,997**	**39,530**	.....	.....

Total Imports of Pulpwood, June, 1931—85,864 Cords—$966,782.

WOOD PULP

	Mechanically Ground				Chemical									
	Unbleached		Bleached		Unbleached Sulphite		Bleached Sulphite		Unbleached Sulphate		Bleached Sulphate		Soda Pulp, Unbleached and Bleached	
	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars
COUNTRIES—														
Austria	.....	.....	.....	.....	.....	.....	47	2,556	.....	.....	.....	.....	.....	.....
Czechoslovakia	.....	.....	.....	.....	219	8,853	539	28,415	.....	.....	.....	.....	.....	.....
Estonia	.....	.....	.....	.....	794	29,868	.....	.....	.....	.....	.....	.....	.....	.....
Finland	118	2,290	151	3,502	11,522	420,038	1,161	48,991	5,575	187,057	96	5,371	.....	.....
Germany	.....	.....	.....	.....	1,201	50,614	4,250	254,181	.....	.....	50	1,680	.....	.....
Netherlands	.....	.....	.....	.....	.....	.....	52	3,802	.....	.....	.....	.....	.....	.....
Norway	300	6,942	125	3,195	44	2,601	25	1,338	.....	.....	.....	.....	.....	.....
Sweden	383	8,153	557	15,038	24,531	1,080,786	3,252	174,802	19,247	629,491	80	5,400	.....	.....
Yugo. and Albania	.....	.....	.....	.....	495	15,188	.....	.....	.....	.....	.....	.....	.....	.....
Canada	10,430	272,912	.....	.....	8,288	358,481	17,065	1,084,517	1,093	57,829	1,867	176,106	243	13,590
Total	**11,231**	**290,297**	**833**	**21,735**	**47,094**	**1,966,429**	**26,391**	**1,598,602**	**25,915**	**874,377**	**2,093**	**188,557**	**243**	**13,590**
CUSTOMS DISTRICT—														
Maine and New Hampshire	3,084	92,951	50	1,130	7,032	280,794	4,522	271,291	2,581	75,937	.....	.....	.....	.....
Vermont	1,076	28,468	.....	.....	784	27,125	1,042	59,693	656	42,841	1,867	176,106	104	5,500
Massachusetts	.....	.....	.....	.....	2,627	118,085	1,890	113,276	2,308	70,294	.....	.....	.....	.....
St. Lawrence	937	23,549	.....	.....	703	34,028	2,579	164,932	69	3,749	.....	.....	110	6,580
Rochester	171	5,278	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buffalo	1,202	34,707	.....	.....	3,028	122,126	1,099	78,472	.....	.....	.....	.....	.....	.....
New York	150	3,431	108	2,800	7,482	267,603	2,681	135,061	1,282	42,903	97	4,344	.....	.....
Philadelphia	333	7,171	125	3,279	4,665	204,943	1,587	96,825	3,177	117,424	.....	.....	.....	.....
Maryland	.....	.....	50	1,144	12,749	585,692	2,388	122,334	4,742	159,982	80	5,400	.....	.....
Virginia	.....	.....	.....	.....	2,897	130,125	170	9,187	5,437	158,091	49	2,707	.....	.....
New Orleans	200	4,493	.....	.....	1,270	38,410	530	29,661	1,004	32,526	.....	.....	.....	.....
Los Angeles	.....	.....	500	13,382	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Francisco	.....	.....	.....	.....	68	1,440	.....	.....	108	2,304	.....	.....	.....	.....
Washington	.....	.....	.....	.....	122	4,894	363	10,959	.....	.....	.....	.....	.....	.....
Dakota	.....	.....	.....	.....	24	306	198	10,428	243	8,258	.....	.....	.....	.....
Duluth and Superior	394	7,102	.....	.....	24	496	27	1,472	500	13,603	.....	.....	.....	.....
Wisconsin	1,200	15,000	.....	.....	1,210	59,354	500	32,160	3,851	145,788	.....	.....	.....	.....
Michigan	2,484	68,147	.....	.....	1,961	73,680	6,815	462,851	17	677	.....	.....	29	1,510
Chicago	.....	.....	.....	.....	448	17,328	.....	.....	.....	.....	.....	.....	.....	.....
Total	**11,231**	**290,297**	**833**	**21,735**	**47,094**	**1,966,429**	**26,391**	**1,598,602**	**25,915**	**874,377**	**2,093**	**188,557**	**243**	**13,590**

Total Imports All Grades of Wood Pulp, June, 1931—113,800 Tons—$5,063,587.

West Linn Goes On Short Week

Effective the first of September, the West Linn mill of the Crown Willamette Paper Company went on a reduced operating schedule of alternate four-day and three-day weeks. The short schedule will be continued, it was announced by the company, until high water in the Willamette River, which usually comes about November 15. At that time the mill will start operating on a six-day week and anticipate continuance on that basis until next summer.

Power conditions are most favorable during the high water months and the new schedule of operations will eliminate the necessity of storing large quantities of groundwood pulp, which is expensive. The quality of the pulp is said to be affected by the storage.

It is explained that the new schedule of operations is not a curtailment, but a revision, because in lieu of operating all year around on a five-day week, the plant will run six days a week during about seven months of the year and alternate four and three days a week during five months.

The first four-day week began August 31, the mill shutting down Friday morning, September 4, and the first three-day week started Tuesday, September 2, due to the Labor Day shutdown Monday.

Port Townsend Kraft Mill Has Brief Shutdown

The Port Townsend, Washington, mill of the National Paper Products Company, subsidiary of the Crown Zellerbach Corporation, was idle for one week in August. Manager A. B. Lowenstein stated that the enforced idleness was due to a lack of orders.

Sawmill "Waste" in the Douglas Fir Region

A recently completed study of the sawmill "waste" in the Douglas fir region of Oregon and Washington shows that in the production of the 1929 cut of green, rough-sawn lumber (10,286,554,000 board feet), 1,353,865,254 cubic feet (solid measure) of sound wood in sawlog form were used. Of this 66.61 per cent (910,810,322 cu. ft.) was converted into rough-green lumber, 19.31 per cent (261,443,668 cu. ft.) was broken down into slabs, edgings, and trimmings, and 14.08 per cent (190,611,284 cu. ft.) was reduced to sawdust. Aside from this, 167,-010,205 cubic feet of bark went through the mill.

The following table shows the percentage of sawmill waste (solid wood) chargeable to the several saws in average mills of the Douglas fir region.

Of the total sawmill "waste", including bark, 43.97 per cent was recovered and sold as by-products, 28.80 per cent was used by the sawmills as fuel, and 27.23 per cent went into the refuse burner. The by-products recovered from sawmill waste included lath, handle squares, shingle bands, pulpwood, screened pulp chips, fuelwood, hogged fuel and sawdust, with a total value of $7,154,122.

Port Angeles News Mill Down

The 300-ton newsprint mill of the Washington Pulp & Paper Corporation, subsidiary of the Crown Zellerbach Corporation, was down for two weeks the latter part of August. The shut down was attributed to "lack of orders."

At the same time it was announced that the pulpwood camp and chipping plant at Neah Bay, to the West of Port Angeles, would also be shut down. The Neah Bay operations turn out some 300 cords of wood daily.

All told, the shutdowns threw some 500 employes out of work, it is reported.

Port Angeles citizens witness such a shutdown as a novelty, as they point to eleven years of operation with no long shutdowns, with production maintained for many years with shutdowns only on Thanksgiving and Christmas days.

New Forest Laboratory at Madison

Providing for the construction at Madison, Wisconsin, of the largest and most complete establishment in the world devoted to research on wood, contract has been awarded by the U. S. Department of Agriculture, Washington, for a new fireproof building for the Forest Products Laboratory, to be completed in one year. This contract is the principal award under a $900,000 Congressional appropriation to provide the laboratory with adequate quarters and equipment.

Better utilization of forest materials and broader markets for forest products are the objectives for which government research workers will use the new facilities. In its six stories, with total floor space of 175,000 square feet, the building will contain modern technical and scientific facilities for testing and investigating wood and other forest products in manifold uses and transformations, from logs, poles, and lumber to pulp, paper, and turpentine. The pulp and paper research laboratory, occupying six floors at one end of the building, will include grinder equipment, a digester tower 40 feet square, beating and refining apparatus, and an experimental paper machine with all moving parts under precision control. With this equipment the study of various American woods as pulp and paper raw material will be continued, along lines that have already broadened the pulpwood market and pointed the way to improved chemical pulping.

Since the Forest Products Laboratory was opened by the U. S. Department of Agriculture, in 1910, it has occupied buildings owned by the University of Wisconsin. In general plan the new building will be U-shaped, about 275 feet in length and overall breadth. It is of modern design, emphasizing "stepped-back" construction, vertical lines, and large areas of glass in the external walls. By terms of the Congressional authorization act, the building will be of fireproof construction throughout.

Percentages of Sawmill "Waste" Chargeable to the Various Saws in Average Sawmills of the Douglas Fir Region*

Sawing Machine—	—Hemlock Sawmills— Band Headsaw			—Douglas Fir Sawmills— Band Headsaw			Circular Headsaw		
	Solid Wood Pct.	Sawdust Pct.	Total "Waste" Pct.	Solid Wood Pct.	Sawdust Pct.	Total "Waste" Pct.	Solid Wood Pct.	Sawdust Pct.	Total "Waste" Pct.
Headsaw	23.07	10.24	33.31	9.16	21.48	30.64	7.86	30.22	38.08
Main Edger	9.22	11.92	21.14	9.79	16.09	25.88	8.02	16.23	24.25
Trimmer	37.01	.42	37.43	35.80	.83	36.63	26.91	.91	27.82
Vertical Resaw	.27	5.91	6.18	1.62	5.00	6.62	2.03	7.27	9.30
Pony Edger	.37	1.04	1.41	.....	.....	.....	.....	.....	.....
Slasher	.00	.53	.53	.00	.23	.23	.00	.55	.55
Total	69.94	30.06	100.00	56.37	43.63	100.00	44.82	55.18	100.00

*Sawmills operating such machines as gang saws and horizontal slab resaws were not included in the averages used for this table.

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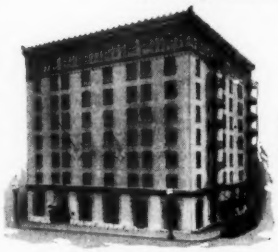

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Cordwood Supply Increasingly Important

A plan originated last winter by the Puget Sound Pulp & Timber Company to aid unemployed men has grown to such proportions that at present there are approximately 250 persons engaged in cutting and hauling cord wood from the surrounding country to the 200-ton Everett mill.

The plan is thus giving employment to many people and is utilizing wood which otherwise would have been allowed to go to waste on the ground.

The plan originally was put forward by pulp mill officials as a temporary relief for the unemployed, but the great numbers of men who have taken advantage of this opportunity has made it possible for the company to incorporate it as one of the regular sources of pulp wood supply.

Everett Mill Hangs Up Production Record

August was the banner month for the Puget Sound Pulp and Timber Company, at Everett, Washington. Production for the 31-day period was in excess of 5,000 tons, it was announced by C. E. Ridgeway, assistant secretary. This is the first time since the mill commenced operations that such an output has been reached and is the direct result of minor changes and corrections in the mill.

The 5,000 ton production total for the month is an average of about 173 tons a day. The mill operates 29 days of each month, production being stopped for one Sunday a month to permit maintenance repairs. The estimated production total for the big plant when built was 50,000 tons annually and if the production shown for August could be maintained, the annual total would be increased 10,000 tons over original expectations.

Paraffine Completing New Linoleum Plant

The Paraffine Companies Inc. expect to complete a new $500,000 unit about November 1 at its Oakland plant, which will be the only plant west of Philadelphia making plain, jaspe, and battleship linoleum. The base material will be cork.

The design of the new unit is under the supervision of Leland Rosener of San Francisco, a consulting engineer who has carried out considerable work for the Paraffine Companies and affiliated companies.

The plant on the east side of San Francisco Bay, where the company is now expanding, also manufactures roll and cut roofings, heavy felt papers and kindred items.

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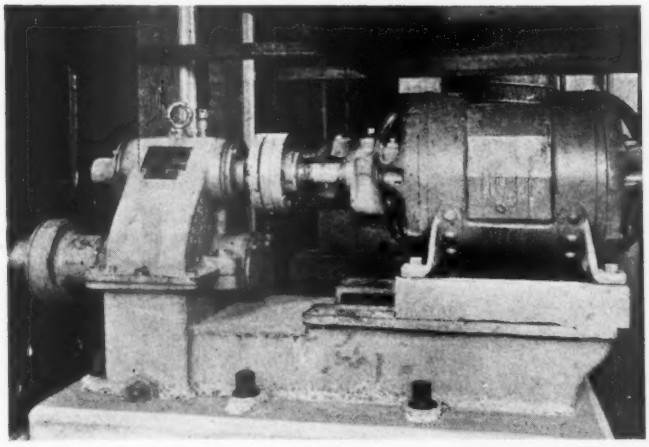

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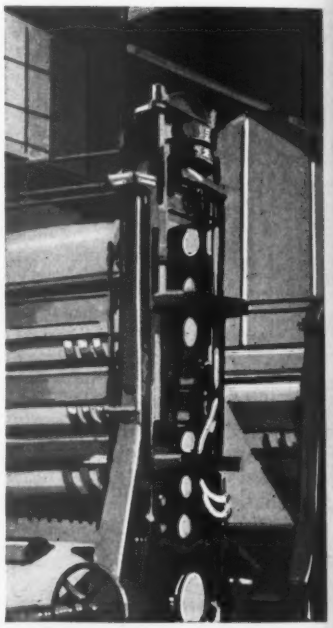
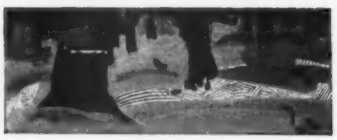
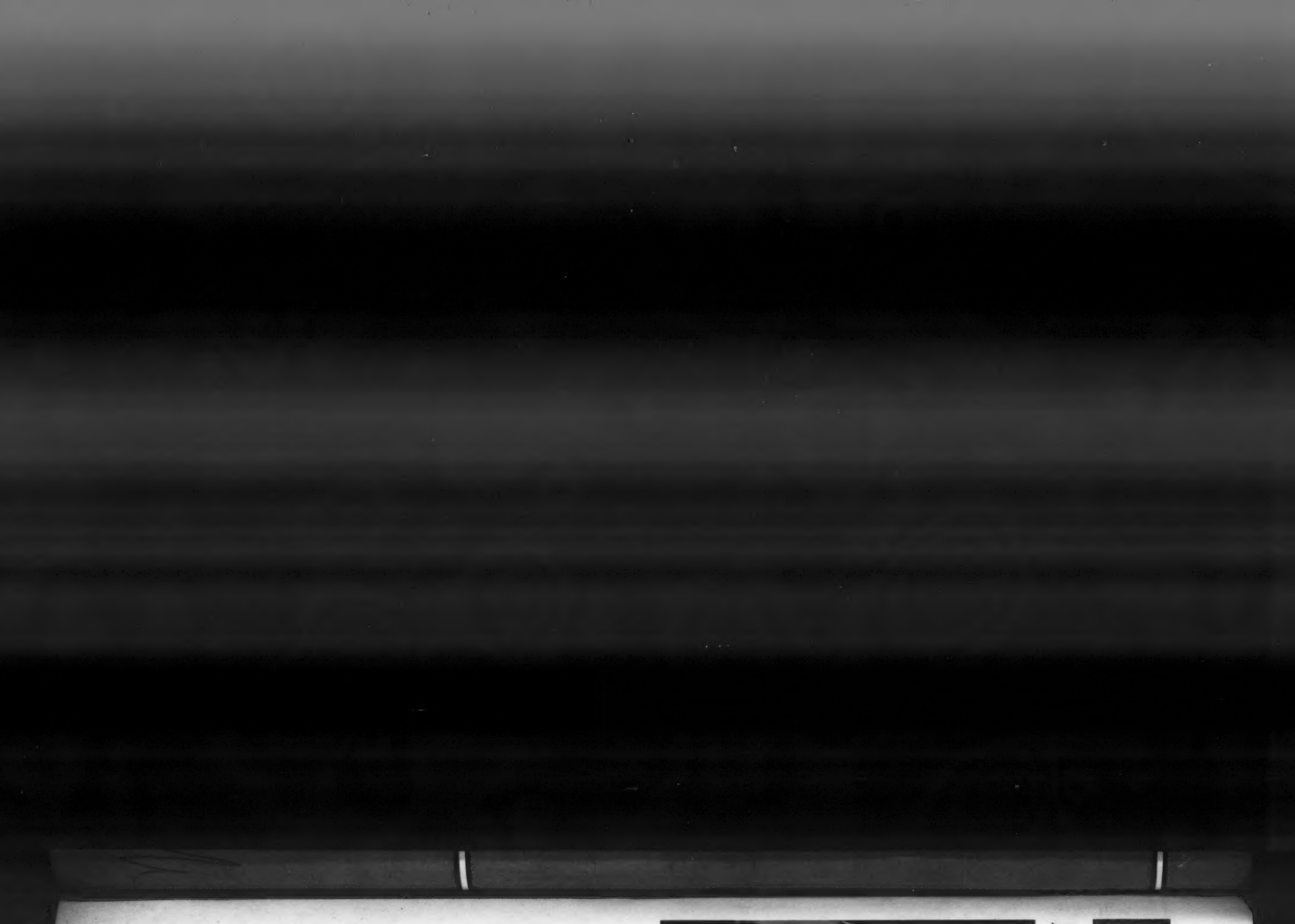
A Pusey and Jones machine built in 1914 for an eastern paper mill has been running continuously for 16 years. And while this machine is still in excellent mechanical condition, the owners recently commissioned us to bring this equipment up to date.

With the redesigned machine this mill has a capacity equal to the demands of the future—at less than half the cost of a new machine.

NOW — While money is cheap, is the time to increase your mill's capacity by modernizing obsolete equipment.



THE PUSEY AND JONES CORPORATION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